

# RAILWAY AGE

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

## FREIGHT TRAFFIC ISSUE

DECEMBER 3, 1951

Continuing a  
quarter-century tradition . . .

Kansas City Southern Lines

use **BYERS**  
**WROUGHT**  
**IRON PIPE**

for AB brake piping  
on 2,000 new cars

When the Kansas City Southern Lines placed orders for 2,000 new cars under the freight car program, railroad engineers based their selection of genuine wrought iron for AB brake piping on 25 years of satisfactory experience. Byers Wrought Iron pipe was used for the AB brake piping on 600 70-ton gondola cars, 400 50-ton box cars, 400 70-ton coal cars, 100 automobile cars and 500 70-ton hopper cars.

Long and happy association between the railroad industry and genuine wrought iron AB piping is not unusual. Most of the nation's major carriers have found that this time-tested material combines the essential qualities so vital to long-life brake piping. Its unique characteristics give the material a structure like stranded wire cable. Because of this, genuine wrought iron withstands continuous vibration without premature fatigue-

failure. It can take short-radius bends, and is free from "spring-back" which simplifies fitting. And its resistance to corrosion is engineering record.

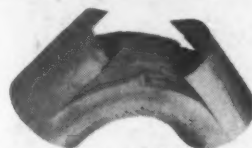
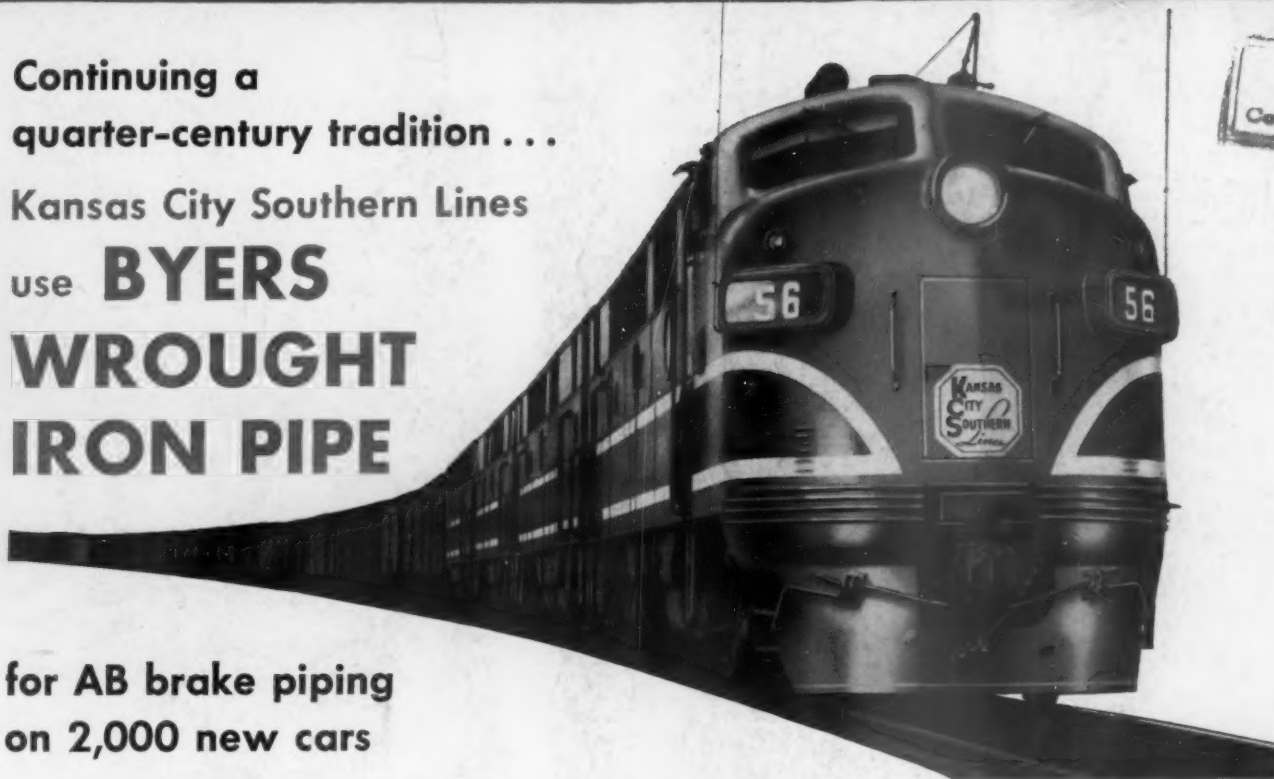
The importance of keeping bad-order cars to a minimum, and the alarming costs of car repair today, are two excellent reasons for using Byers Wrought Iron pipe on new cars, and for brake pipe replacement. The widespread use of genuine wrought iron brake piping is the best evidence of its superior durability and greater economy.

Write today for our booklet, **THE ABC'S OF WROUGHT IRON**. It will give you accurate information on the properties and qualities of genuine wrought iron.

A. M. Byers Company, Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Atlanta, Chicago, St. Louis, Houston, San Francisco. Export Division: New York, N. Y.

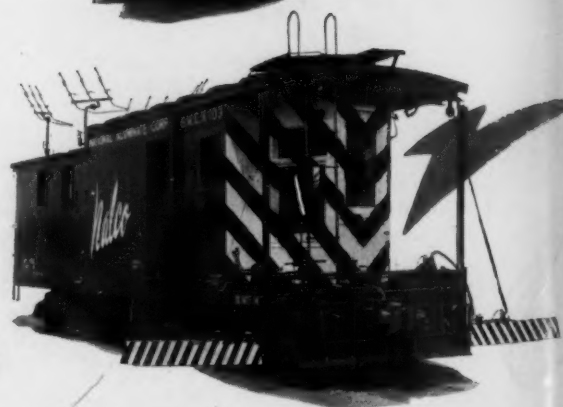
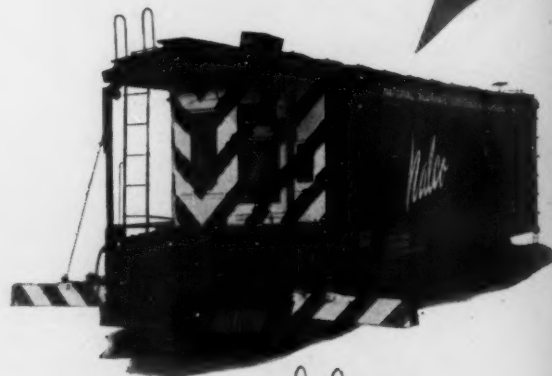
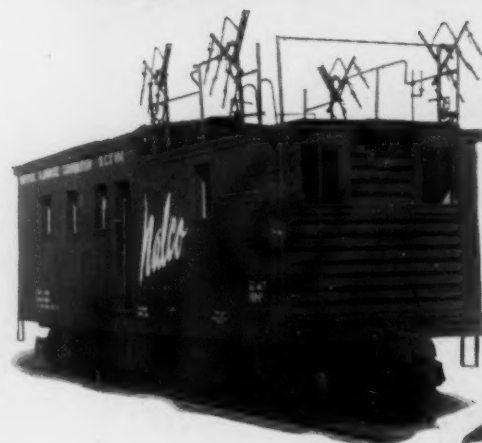
# BYERS

CORROSION COSTS YOU MORE THAN WROUGHT IRON  
**WROUGHT IRON**  
**TUBULAR AND HOT ROLLED PRODUCTS**  
ELECTRIC FURNACE QUALITY ALLOY AND STAINLESS STEEL PRODUCTS



### WHY GENUINE WROUGHT IRON LASTS

This notch-fracture test specimen illustrates the unique fibrous structure of genuine wrought iron—which is responsible for the high corrosion resistance of the material. Tiny threads of glass-like silicate slag, distributed through the body of high-purity iron, halt and disperse corrosive attack, and discourage pitting and penetration. They also anchor the initial protective scale, which shields the underlying metal.



# 6 MORE REASONS for

## *Nalco* **COMPLETE WEED and BRUSH CONTROL**

➤ Nalco Spray Cars, engineered to give precision chemical dosage and coverage, are added good reasons for using safe, powerful Nalco weed and brush control chemicals on your right-of-way.

Several Nalco formulas are available . . . specifics for grasses, weeds, annuals or perennials, and Nalco spray cars are equipped to spray two formulas simultaneously, when necessary, in correct proportions for effective control. Spray cars, each with precise metering and indicating equipment, are available without charge to railroads using Nalco weed control chemicals in tank car lots.

Write for data on spray car availability and Nalco chemicals to keep your right-of-way free of weeds and brush.

**NATIONAL ALUMINATE CORPORATION**  
Chicago 38, Illinois  
6200 West 66th Place  
Canadian inquiries should be addressed to Alchem Limited,  
Burlington, Ontario

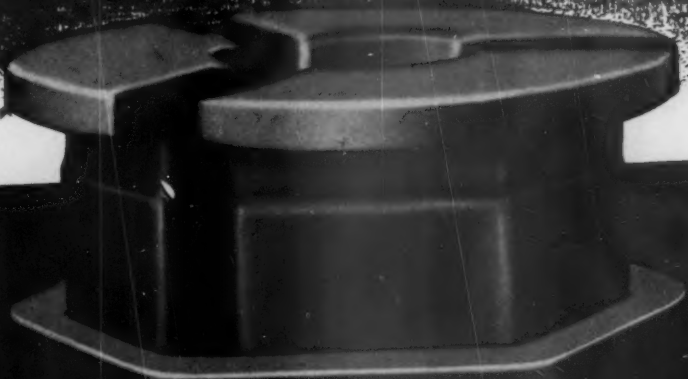
THE

*Nalco*

**SYSTEM • Serving Railroads through  
Practical Applied Science**

Six Nalco Spray Cars shown above have all gone into service within the past two years. Modern design, equipment and instrumentation assure maximum spraying control and labor-saving efficiency.





W.H. MINER, INC.  
CLASS C-4-S  
TRUCK SPRING  
SNUBBER  
PATENTED

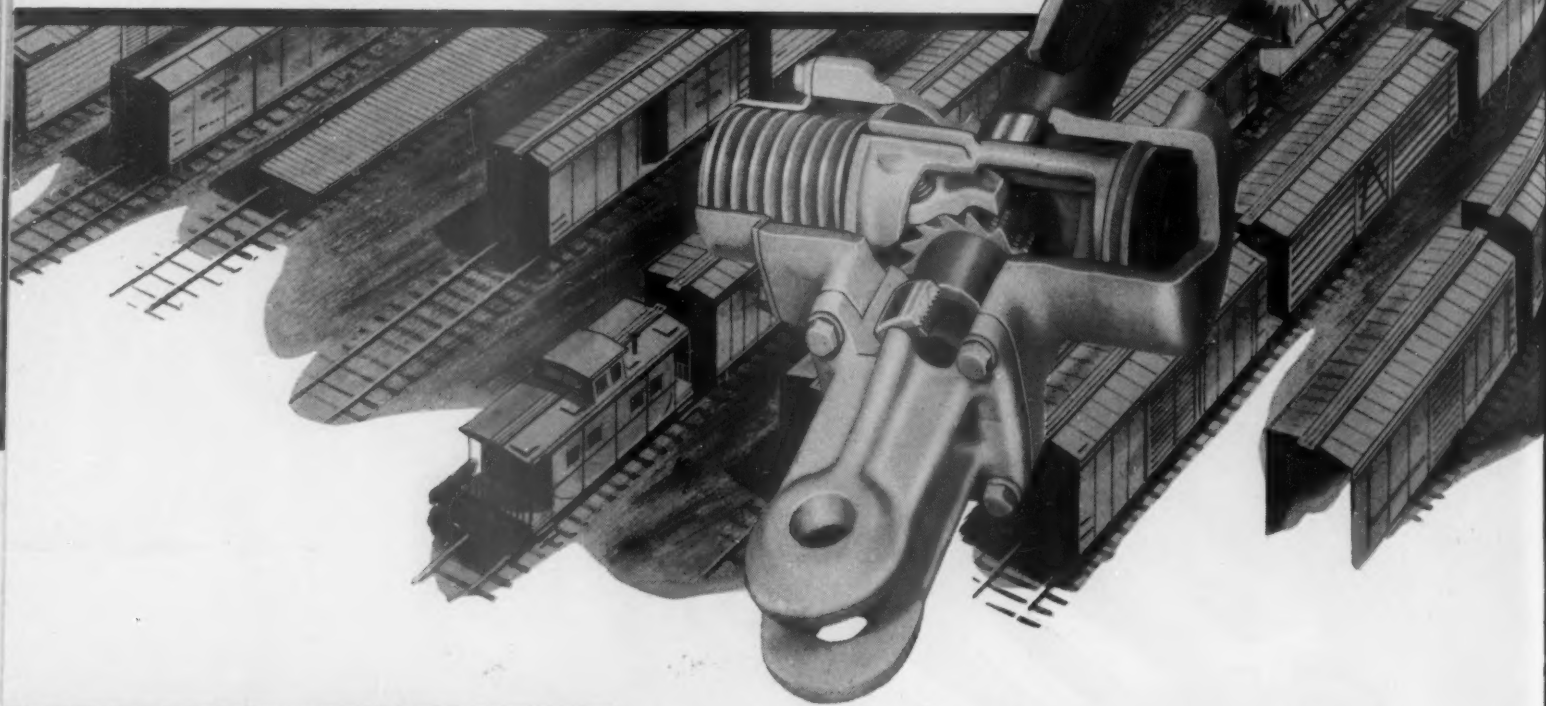
QUALITY

Truck Spring Snubber

SAFETY GUARDS LADING

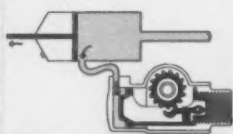
CHICAGO

## How to cut Big Slack Adjustment Jobs

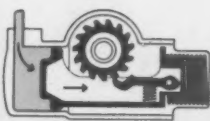


### WESTINGHOUSE TYPE D PNEUMATIC-AUTOMATIC SLACK ADJUSTERS FOR FREIGHT CARS

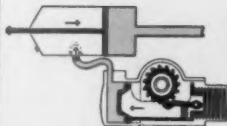
Westinghouse Type D Slack Adjusters eliminate an expensive, time-consuming operation. No manual adjustment is required between brake shoe replacements. Uniform air brake piston travel is maintained at all times. Simple, rugged parts—design proven in many years of passenger service. Positive, dependable cycle of operation is diagramed below.



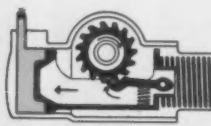
Excessive piston travel in air brake cylinder uncovers port, admits air to slack adjuster cylinder.



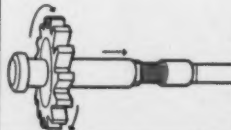
Air pressure moves slack adjuster piston back, compressing piston spring.



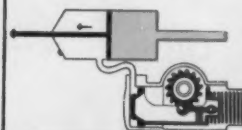
When brake is released, air in slack adjuster piston is vented. Piston spring returns slack adjuster piston.



Pawl on slack adjuster piston engages ratchet nut . . . advances it one notch.



Rotation of ratchet nut turns nut on tie rod, shortening the connection.



Process is repeated with each brake application until proper brake piston travel is established.

# Westinghouse Air Brake Co.

AIR BRAKE DIVISION  
WILMERDING, PA.





# RAILWAY AGE

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office and Trade Mark Office in Canada.



## IN THIS ISSUE

Simmons-Boardman Publishing Corporation:  
James G. Lyne, President. Samuel O. Dunn,  
Chairman Emeritus. J. S. Crane, Vice-President  
and Secretary. C. Miles Burpee, Harry H. Mel-  
ville, C. W. Merriken, John R. Thompson, William  
H. Schmidt, Jr., J. S. Vreeland, Vice-Presidents.  
Robert G. Lewis, Assistant to President, Arthur  
J. McGinnis, Treasurer. Ralph E. Westerman,  
Assistant Treasurer.

EDITOR ..... James G. Lyne  
EDITORIAL CONSULTANT ..... Samuel O. Dunn  
MANAGING EDITOR ..... C. B. Tavenner  
WESTERN EDITOR ..... William H. Schmidt, Jr.  
NEWS & FINANCIAL EDITOR ..... Gardner C. Hudson  
WASHINGTON OFFICE . . .  
Walter J. Taft                      Joe W. Kizzia  
TRAFFIC & TRANSPORTATION DEPARTMENT . . .  
Robert G. Lewis                      John W. Milliken  
John S. Gallagher, Jr.  
MECHANICAL DEPARTMENT . . .  
C. B. Peck                      E. L. Woodward  
H. C. Wilcox                      C. L. Combes                      G. J. Welhofen  
ELECTRICAL DEPARTMENT ..... Alfred G. Oehler  
ENGINEERING DEPARTMENT . . .  
M. H. Dick                      Henry E. Michael  
Norris V. Engman                      Radford E. Dove  
PURCHASES & EQUIPMENT ..... Fred C. Miles  
SIGNALING &  
COMMUNICATIONS DEPARTMENT .. John H. Dunn  
WESTERN NEWS DEPARTMENT .. Arthur M. Cox, Jr.  
ASSOCIATE EDITOR ..... Charles Layng  
LIBRARIAN ..... Edith C. Stone  
EDITORIAL ASSISTANT ..... Elaine C. Farrar

Published weekly by the Simmons-Boardman Publishing Corporation at Orange, Conn., and entered as second class matter at Orange, Conn., price, \$3.00 a year to railroad employees only in U. S., U. S. possessions and Canada, payable in advance and postage free. Subscription price to railroad employees elsewhere in the Western Hemisphere, \$10.00 a year; in other countries, \$15.00 a year. Two-year subscriptions double the one-year rate. Single copies 50¢, except special issues \$1. Address Robert G. Lewis, Assistant to President, 30 Church Street, New York 7.

Editorial and Executive Offices at 30 Church Street, New York 7, N. Y., and 79 West Monroe Street, Chicago 3, Ill. Washington 4, D. C.: 1081 National Press Building—Cleveland 13: Terminal Tower—Portland 5, Ore.: Terminal Sales Building—Los Angeles 17: 1127 Wilshire Boulevard—San Francisco 4: 1204 Russ Building—Dallas 4: 2909 Maple Avenue.

### EDITORIAL COMMENT:

The Customers Are Worried—and Thinking .....	71
Does the I.C.C. Want Government Ownership? .....	72

### FREIGHT TRAFFIC ARTICLES:

New Frisco Telephone Checking System Cuts Costs .....	73
Shippers Forum—B. Brewster Jennings, E. Grosvenor Plowman and Alvin W. Vogtle .....	76
Substituted Truck Service Speeds L.C.L. on the Big Four .....	78
Utility Loader Redesigned for the Navy .....	80
Reading Line to New U. S. Steel Plant Nears Completion .....	82
Making Salesmen on the Soo .....	87
How the Union Railroad Saves Time with Radio .....	94

### GENERAL ARTICLES:

Moving Silt from Yard Tracks an Unusual Operation .....	84
Plymouth 50-Ton Diesel Switcher Has Hydraulic Drive .....	96

### NEWS FEATURES:

Firemen's Union Walks Out of Emergency Board .....	11
Serviceable Car Ownership Up 8,600 in October .....	12
"Inside Gateway" Anniversary Celebrated .....	12
Diner Employees' Union Called Communistic .....	13
Neff Out as M.P. President, Still Chief Executive .....	14

### DEPARTMENT:

News of the Railroad World .....	11
----------------------------------	----

Published by SIMMONS-BOARDMAN PUBLISHING CORPORATION, New York 7

Railway Age    Railway Mechanical & Electrical Engineer    Railway Engineering & Maintenance  
Railway Signaling & Communications    Car Builders' Cyclopedic    Locomotive Cyclopedic  
Railway Engineering & Maintenance Cyclopedic    American Builder  
Railway Engineering & Shipping Review    Marine Catalog & Buyers' Directory  
Books covering transportation and building

Railway Age is a member of Associated Business Publications (A. B. P.) and Audit Bureau of Circulation (A. B. C.) and is indexed by the Industrial Arts Index and by the Engineering Index Service. Printed in U. S. A.

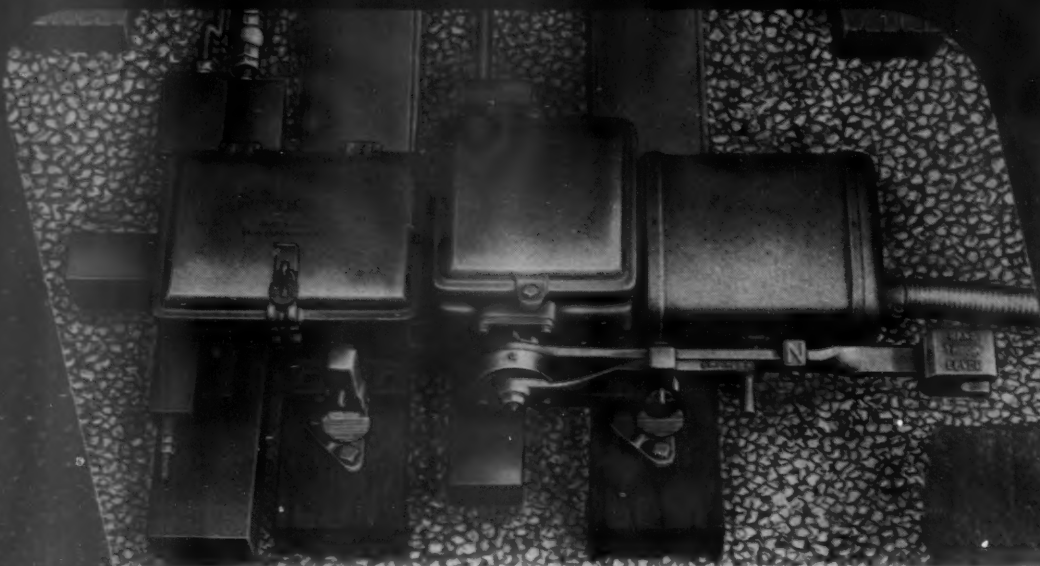
# Ample Power For the Toughest Job-

## "UNION"

### M-3 and

### M-23 A&B

ELECTRIC  
SWITCH  
MACHINES



The new "Union" M-3 and M-23A&B Electric Switch Machines are built especially to handle the heavier switch points now in general use . . . assure fast, reliable operation where low temperatures and heavy snowfall are common.

Such power has been obtained by the use of a highly efficient spur and worm gear drive . . . careful selection of gear ratios . . . and by the use of powerful, efficient motors.

All of the new machines meet, with ample margin, the operating times specified in A.A.R. Signal Section Specification 101 for 1950, and the load characteristics shown on A.A.R. Signal Section Dwg. 1457C. Ask any of our district offices for the full story of the new "Union" M-3 and M-23A&B Electric Switch machines.



## UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE CO.

SWISSVALE  PENNSYLVANIA

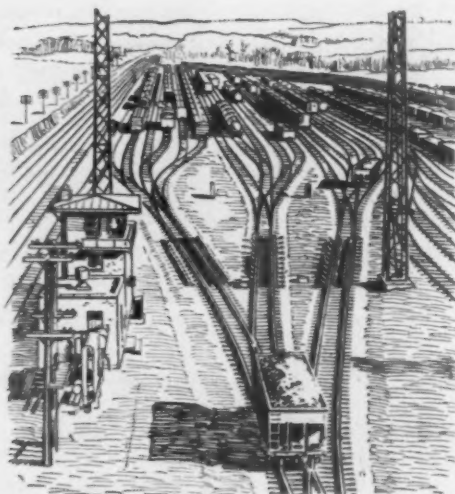
NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO



## WEEK AT A GLANCE

### CURRENT RAILWAY STATISTICS

Operating revenues, nine months	
1951	\$ 7,418,561,753
1950	6,757,696,350
Operating expenses, nine months	
1951	\$ 6,020,189,115
1950	5,160,195,075
Taxes, nine months	
1951	\$ 857,337,404
1950	783,172,146
Net railway operating income, nine months	
1951	\$ 589,700,770
1950	680,351,673
Net income, estimated, nine months	
1951	\$ 377,000,000
1950	469,000,000
Average price railroad stocks	
November 27, 1951	53.15
November 28, 1950	47.77
Car loadings, revenue freight	
46 weeks, 1951	36,263,871
46 weeks, 1950	34,571,303
Average daily freight car surplus	
Week ended November 24, 1951	4,817
Week ended November 25, 1950	6,127
Average daily freight car shortage	
November 24, 1951	4,397
November 25, 1950	16,020
Freight cars delivered	
October 1951	10,082
October 1950	5,501
Freight cars on order	
November 1, 1951	132,792
November 1, 1950	122,488
Freight cars held for repairs	
November 1, 1951	91,726
November 1, 1950	102,899
Net ton-miles per serviceable car per day	
September 1951	1,074
September 1950	1,084
Average number railroad employees	
Mid-October 1951	1,271,809
Mid-October 1950	1,291,549



### In This Issue . . .

**THE COUNTRY'S LEADING SHIPPERS** are giving increasing evidence of being worried about the plight of the railroads—and of doing some long-range thinking as to what they can do to abolish the cause of that worry. That conclusion, taken from the editorial on page 71, is drawn from the proceedings of the National Industrial Traffic League's recent annual meeting in Chicago, which had, the editorial says, "an atmosphere of deep concern for the continuance of private operation of transportation in general and the health of the railroads in particular." Still more specific evidence of such thought, as well as of the lines which it is taking, is contained in the article which starts on page 76—an article which consists of substantial excerpts from recent addresses by representatives of three important shipping groups—B. Brewster Jennings, of the oil industry; Alvin W. Vogtle, a coal man; and E. Grosvenor Plowman, traffic vice-president of the United States Steel Company and president of the American Society of Traffic and Transportation.

**HEADLINES:** Class I railroads increase serviceable freight car supply by 8,600 units in October.—Locomotives on order November 1 number 1,742 units.—Army requests bids on 772 1,600-hp. diesels and 1,486 freight cars.—C. & O. reports good results with dining car service of "frozen" tray meals.—1951's 2nd-quarter loading estimate was 3.2 per cent low.—Western Pacific tests "Compartmentizer" cars.—Hearings on truck application for highway transport of explosives moved to Washington; state witnesses oppose grant of authority.—G. N., W. P. celebrate 20th anniversary of Inland Gateway Route.—First quarter material allocations will permit building only 21,200 domestic freight cars.

**BETTER SERVICE TO SHIPPERS** is still the fundamental goal of the railroad industry. Some of the steps which various railroads are taking to provide that better service are described in this issue—how the New York Central is using substituted truck service to provide faster delivery of l.c.l. freight on its Big Four district (page 78); how the Soo Line trains its traffic representatives to enable them to do a better job (page 87); how the Frisco uses telephone checking to speed movement and cut costs in some of its local freighthouses (page 73); what the Reading has done to serve U. S. Steel's new Fairless Works (page 82); how the Evans D-F loader is being adapted to needs of naval munitions shipments (page 80).

**HOW THE ROCK ISLAND** adapted special machines to the unusual problem of disposing of the heavy deposit of silt left in its big Armourdale yard by last July's flood is described in detail, and illustrated, in the article which begins on page 84.

## WEEK AT A GLANCE

### In Washington . . .

**ANOTHER BLACK EYE** was plastered on the already badly battered Railway Labor Act last week, when the Brotherhood of Locomotive Firemen & Enginemen walked out on the emergency board recently appointed by the President to investigate the brotherhood's long stalemated dispute with the railroads over wages and working rules. "The board," the brothers said, "was trying to work in an atmosphere which foredooms it to failure." The board and the railroad representatives, alike, were apparently equally surprised by the brothers' walkout, but after a brief recess the carriers' attorney, Howard Neitzert, said they would proceed with their part of the hearings. More fireworks developed at the I.C.C. rehearing on the Missouri Pacific reorganization—all in all, it was a lively week in the capital.

**COMMUNISM** appears to have gained a definite foothold among railroad dining car employees, according to a statement issued last week in Washington by the internal security subcommittee of the Senate, accusing the Dining Car & Railroad Food Workers Union of being dominated and directed from Communist party headquarters in New York City. The union, the statement said, has members on at least 11 railroads from coast to coast and is attempting to expand its membership. As a result, said Senator McCarran of Nevada, "the Communist party already has established the nucleus of a 'courier system' on the railroads for communication between its underground leaders."

### . . . And Elsewhere



**EFFECTIVE JANUARY 1**, Harry A. DeButts (above), vice-president-operation of the Southern for the past 14 years, will become president of that system, succeeding Ernest E. Norris, who is retiring at his own request on December 31, but who will continue with the company as chairman of the board. Mr. DeButts will be succeeded in turn by D. W. Brosnan, general manager, Central Lines, at Knoxville, Tenn.

**DELAYING TACTICS BY TRUCKERS** are defeating efforts of various states to collect more equitable taxes for use of highways. In addition to court actions in New York and other states, the truckers have, in Oregon, found cover behind a law which was originally designed to protect the people — not "the interests." In brief, the highway freighters collected enough signatures to initiate referendum action on the higher ton-mile taxes passed by the state legislature earlier this year. This has the result of delaying collection of the higher taxes until 1952. This type of action gives the truckers an advantage also because, old-time politicians say, in any referendum about complicated subjects having no personal bearing on the average citizen, it is much easier to get a "no" vote than a "yes" one. Oregon legislators, however, are reported to be doing a slow burn about the truckers' action on what the lawmakers felt was a fair and necessary increase. As a result, there is said to be some sentiment for stiffer taxes at the next legislative session, and even some more or less serious talk about a movement "to force truck operators to build their own roads and keep off highways built by public funds."

**DON'T MISS** seeing the A.A.R.'s new sound color movie, "On the Track." It's 20 solid minutes of what must be some of the finest railroad action shots ever put on film.

**"WINNING YOUR WAY WITH PEOPLE"** the outstanding book on human relations by K. C. Ingram, assistant to president of the Southern Pacific—is to be translated not only into Dutch (as reported on this page on November 19)—but into German as well.



# "CAT" BULLDOZER...

Price of a standard "Caterpillar" D8 Tractor is \$15,000; No. 8A Bulldozer, \$2,345; No. 24 Cable Control, \$750, f.o.b. Peoria. Prices subject to change without notice.

America's  
all-purpose  
tool!



WORKING near Wenatchee, Washington, for the Great Northern R.R., this "Caterpillar" powerhouse is moving riprap material from native deposit for stockpiling and loading on flat cars. It's a "Cat" D8 Tractor with No. 8A 'Dozer with cable control — and for dependable *big* power and long life under the toughest conditions, you can't beat this matched tool.

These machines give you *matched* design — tractor and 'dozer built to work together. This brawny team is a bear at meeting work schedules. Sturdy construction and quality materials enable it to keep punching full time without down-time, and the special steel cutting edge of the blade hammers through the toughest going. Most important of all, the precision methods used in "Caterpillar" factories build extra years of life into these highly maneuverable bulldozers.

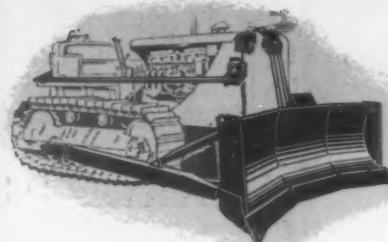
For help with your equipment problems, see your "Caterpillar" dealer now. Today's expanding military program has high priority. But it is recognized that our national preparedness depends upon stepped-up civilian production too. So your "Caterpillar"

dealer is especially interested in meeting your needs — through equipment replacement and by exercising his working partnership with you to keep the machinery you have *on the job*.

CATERPILLAR, PEORIA, ILLINOIS

## "CATERPILLAR" BULLDOZER EXTRA FEATURES

- 1 Tractor and 'dozer *broken to harness*, and a size for every need.
- 2 Moldboard curvature for active, *rolling*, higher production loads.
- 3 Box section side arms — extra thick at points of greatest stress.
- 4 Choice of straight or angling type of blade, simple to maneuver and easy to adjust or detach.
- 5 Your choice of hydraulic or cable control.
- 6 The power of the "Caterpillar" Diesel Engine is geared to blade *capacity*.



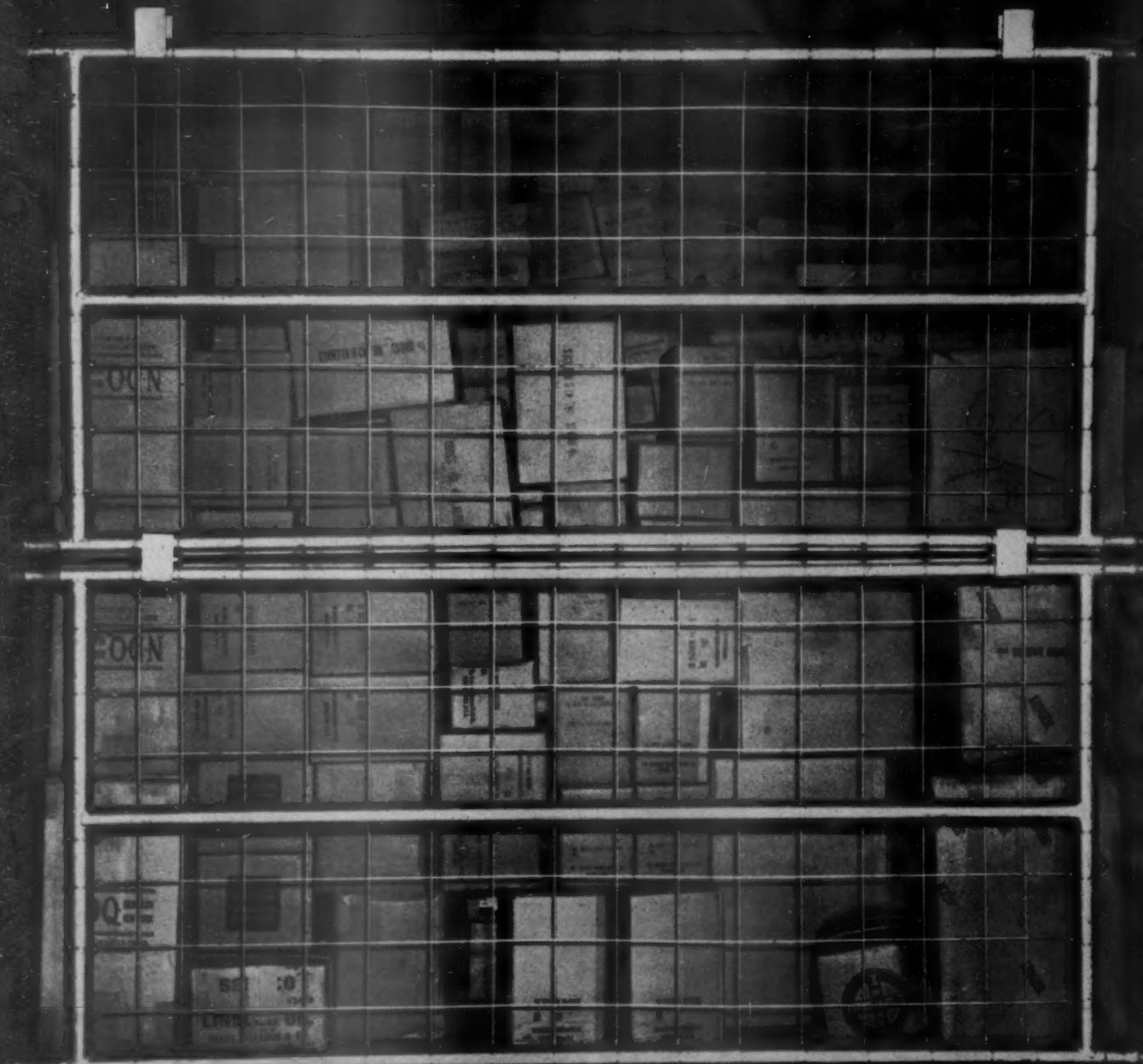
## New Addition to 'Dozer Line

Here's a specialist that can step up production and cut costs. It's the brand new No. 8U 'Dozer for use with the "Caterpillar" D8 Tractor with cable control. Working best in loose or light material, the end portions of this blade extend forward to give it a flat U shape. This enables it to drift large loads without spillage, 'dozing longer distances for bigger production. The No. 8U is built to the same high standards of strength and long life as the other "Caterpillar" Bulldozers. The versatility of this new tool gives it excellent performance on all kinds of 'dozing jobs, from stockpiling to pioneering.

# CATERPILLAR

REG. U. S. PAT. OFF.

DIESEL ENGINES • TRACTORS • MOTOR GRADERS • EARTHMOVING EQUIPMENT



Seen in the picture is the Pittsburgh Sectional Bulkhead used in conjunction with a full loaded tier shipment. For a half loading, only one section would be used. All sections are identical and fit securely on top of one another. Telescoping cleats permit fitting all car widths. The average installation time—four minutes for two sections.

## ***How Pittsburgh Bulkheads Pay for Themselves***

Records show that a Pittsburgh Bulkhead will actually pay for itself in savings of labor and materials in an average of 20 trips . . . then continue to show a net profit to you indefinitely because each unit is sturdily built of heavy steel tubing and welded wire. Here's how it works. First of all, you do away with lumber, straps, anchor

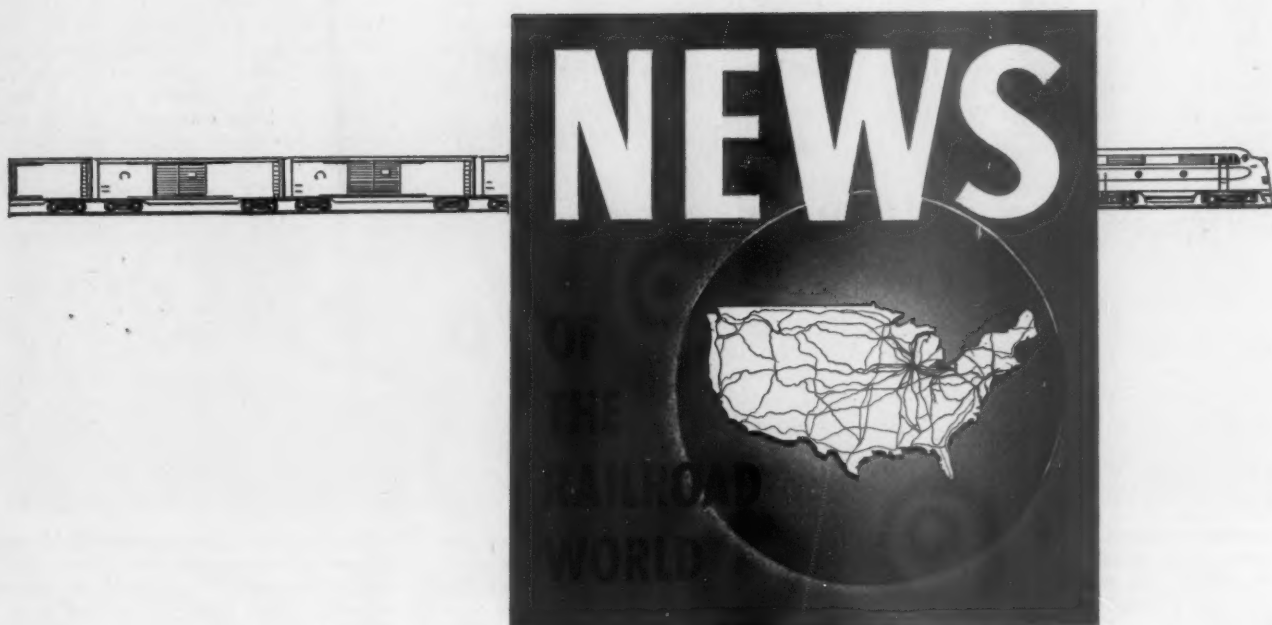
plates, special tools and scrap bins and each bulkhead can be installed by two men in two minutes. Moreover, the cargo is so securely held that damage claims are cut to an absolute minimum. Why not cut your dunnage cost now . . . write today to Dept. RA-1, Pittsburgh Steel Products Company, Grant Building, Pittsburgh 30, Pa.

# **BULKHEADS**

**a product of Pittsburgh Steel Products Company**

*A Subsidiary of Pittsburgh Steel Company*





## Firemen's Union Walks Out On Presidential Emergency Board

**Refuses to make presentation beyond statement calling the proceedings "a fruitless venture"**

The Brotherhood of Locomotive Firemen and Enginemen last week walked out on the emergency board investigating the brotherhood's long-stalemated dispute with the railroads. Calling the board proceedings "a fruitless venture," the union refused to do more than offer a brief opening statement.

Harold C. Heiss, attorney for the brotherhood, read the statement in which he said the union "cannot believe that the appointment of this board is a sincere effort to settle this dispute." He said the board was trying to work in an atmosphere "which foredooms it to failure," and concluded that it would be a waste of time and effort to proceed further.

The union's decision to boycott the board proceedings gave Railway Labor Act procedures a new black eye. It marked the first time that one of the parties has walked out on a Presidential emergency board, although there have been cases where a union refused to put in an appearance at all.

The move apparently caught the board by surprise. Earlier, as the hearings opened, Chairman Carroll R. Daugherty had asked the parties if they wished to agree to allow the board extra time to conduct its investigation and make its report. Mr. Heiss parried the question by saying, "Let's see how things go here this morning before we decide."

With the hearing room in a buzz at the conclusion of the Heiss statement, Railroad Attorney Howard Neitzert asked for a brief recess. Meanwhile, Union President David B. Robertson, Mr. Heiss, and their entire party packed up and walked out.

They did not close the door completely. In saying the brotherhood would not proceed further with the hearings, Mr. Heiss told the board that "if you wish to consult with us we will meet with you at your request."

When the board reconvened a few minutes later, Mr. Neitzert said the carriers proposed to proceed with the hearings. He subsequently went ahead with his opening statement, reviewing the issues involved in the dispute and outlining the carriers' position.

The emergency board, which was appointed by President Truman November 6 to forestall a strike called by the union for November 8, issued a statement later in the day. The board indicated it would hear the case "as presented" and would make a report.

"It goes without saying that the report will be based solely on the board's concept of the public interest which includes the sincere desire to settle the dispute," the statement said.

Mr. Heiss' remarks at the opening of the hearing included objections to the membership of the emergency board. He called the selection of per-

sonnel for the board "unfortunate," and outlined specific objections to two of the three members.

He noted that it was the same board which recently investigated a dispute involving Pullman conductors—saying the board's report in that case had been reviewed with "astonishment and resentment" by the Order of Railway Conductors. The union did not accept the board's recommendations.

As to the two board members to which the fireman objected, Mr. Heiss said one member, whom he later identified as Andrew Jackson, had previously been "formally protested" to the National Mediation Board against appearing on any Railway Labor Act tribunal. Another member, George Cheney, was objectionable because he served as referee in another union case involving some of the same issues as those in the firemen's case.

### "Undermines Confidence"

"You can understand why employees are concerned at their chances before this board," Mr. Heiss said. He added that its appointment "undermines their confidence," and he then had a few words to say about "a high government official in the White House" who would select an emergency board when he knows confidence is lacking in the members. This was apparently a reference to Dr. John R. Steelman, assistant to President Truman on labor matters.

"For these reasons, the employees cannot believe that the appointment of this board is a sincere effort to settle this dispute," Mr. Heiss declared. "Instead, the members of this board have been charged to perform a task

in an atmosphere which foredooms it to failure."

Earlier in his statement Mr. Heiss had much to say about the railroads being under government seizure, and charged the carriers with taking ad-

vantage of this "inequality of bargaining power." He said they "have tried to ram down our throats changes in working conditions which they would not dare do if the government did not operate the railroads."

## Serviceable Car Ownership Went Up 8,600 in October

Class I railroads increased their serviceable car ownership by 8,600 in October, according to the latest issue of "The National Transportation Situation," put out by Chairman A. H. Gass of the Car Service Division of the Association of American Railroads.

The increase reported by Mr. Gass reflects a further reduction (5,500) in bad order cars. At the same time the number of new cars installed exceeded retirements by 3,100. Mr. Gass noted that while domestic freight car production in October finally reached the long-sought goal of 10,000 cars, Class I roads and their car-line affiliates accounted for only 8,020 of this number.

Compared with November 1, 1950, Class I carriers on the same date this year had about 37,000 more serviceable cars, the C.S.D. chairman said. Again, the reduction of bad orders—now down to five per cent of owner-

ship—was a contributing factor.

The gain in new cars over the past year has been somewhat more substantial for box cars than for other types, Mr. Gass said. He added that box car ownership on November 1 was 728,081, an increase of 21,411 since the same date last year.

One outstanding feature of recent equipment figures was the installation of 279 new locomotives in October. Mr. Gass said this was one of the highest monthly figures ever reported. He also noted that retirement of 573 steam locomotives in October was "unusually high, having been exceeded only once since March 1932."

### Current Car Situation

Turning to his discussion of the current freight car situation, Mr. Gass found demands for boxcars decreasing slightly. He said the week ended October 20, when car loadings totaled

886,648, will undoubtedly stand as the peak week for 1951. As to box cars, he does not expect any critical situations to arise during the rest of the year.

Demands for hoppers, gondolas and plain flats have continued heavy, according to Mr. Gass. He sees some improvement in the hopper supply as winter weather curtails movement of ore and road building materials. Requirements of the steel industry keep gondola demand high.

Commenting on 1951 coal production, the C.S.D. chairman said results so far this year indicate a probable production of close to 530 million tons, as compared with 512 million tons in 1950. Coal exports continue to increase, and in the first 10 months of this year—almost 26 million tons moved overseas. In the same period last year exports totaled only about 1.5 million tons.

The lake ore program was held up about 10 days by unusually cold weather around November 1, Mr. Gass reported. As a result, estimates as to 1951 volume had to be revised, although Mr. Gass said the lake program "may still reach the objective of 90 million tons" this year.

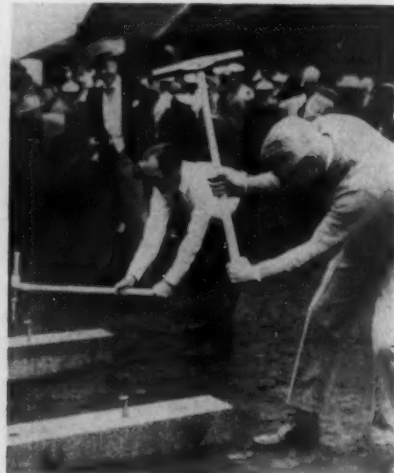
As to freight-car performance, Mr. Gass reported that net ton-miles per serviceable car per day was 1,074 during September. This was at approximately the same level as in Au-



### "INSIDE GATEWAY" FREIGHT ROUTE CELEBRATED WITH FULL HONORS

Twenty years ago, the last gold spike to be driven in the United States to commemorate the opening of a new stretch of main line railroad, was hammered home at Bieber, Cal., on the state's high northern plateau, just east of the Sierras. It symbolized the joining of the northern California extensions of the Great Northern and the Western Pacific, to form a new north-south route in the Far West—now known as the "Inside Gateway."

On November 10 at just about the time of day when the golden spike was driven 20 years before—and in the same kind of wintry weather—the joining of the rails was commemorated with speech and song and a bit of pageantry. Special trains from Portland and San Francisco, respectively, brought to Bieber about 100 railroad officers, civic and shipper representatives of cities served by the Inside Gateway Route, and members of state utility commissions. About all of the small—but hardy—population of Bieber turned out.

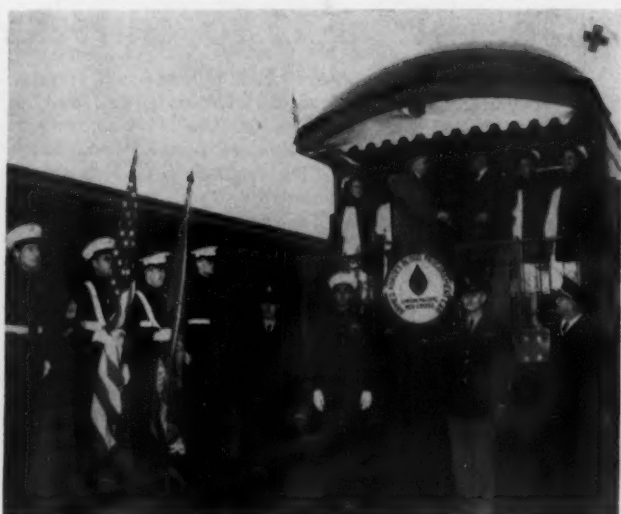


Snow, driven by a high wind, led old-timers at the celebration (left) to recall that, 20 years ago, the party had to tear down the grandstand to keep warm. A band from the Bieber High School supplied music. Miss Jessie Lee Long, "queen" of Oregon Technical Institute, at Klamath Falls, raised the flag. President P. N. Myers, of the nearby McCloud River Railroad, was master of ceremonies.

A spike-driving contest (right) between Presidents John Budd of the G.N., on the left, and Fred Whitman of the W.P., was won by the former, by a fraction of a second. Mr. Budd accomplished little with his first three strokes; then got a short grip on the maul and knocked his spike home in five more strokes. By winning, the G.N. gets possession of the original gold spike, which has hitherto lain in the vault of the W.P. "Seconds" for the duel, looking on, are Charles Clegg (left) and Lucius Beebe, popular writers on railroad lore, who always manage to find appropriate dress for such occasions.

(The significance and development of the Bieber route will be featured in a subsequent issue of *Railway Age*.)





**FOR ARMED FORCES BLOOD PROCUREMENT** the Union Pacific has donated a remodeled business car (right), to the American Red Cross. At the November 7 dedication, U.P. President A. E. Stoddard (left on the platform) turned the keys of the car over to Ray Schlotterbeck, Red Cross midwest area supervisor. Standing behind them are the four nurses who will travel with the

car during its tour of the U.P. system. Also taking part in the ceremonies, in addition to the Marine color guard on the left, were officers from the four armed services. The rear lounge of the car will serve as a waiting room for blood donors. Four beds in two state-rooms will be used for extraction of blood and the dining room will be used to serve coffee and cakes to donors.



The car may be used as living quarters for the working crew when other quarters are not available. It is expected the car will permit collection of about 100 pints of blood each day. Supplies, carried in an attached baggage car, will permit independent operation of the car for as long as 30 days. All remodeling and transportation expenses are being borne by the railroad.

gust, when a new high for the year was established. The August figure was 1,077.

Mr. Gass also pointed out that the September figure was "only slightly below" that recorded in September 1950, "when car shortages were more than twice as severe." The September 1950 figure was 1,084.

Reports from 748 cities in various

shipper-board districts indicated that cars detained beyond the free time of 48 hours averaged 13.94 per cent of those placed in October. This compared with 14.72 per cent the previous month and 16.79 per cent in October 1950. For the first 10 months of this year, average detention was 14.63 per cent, compared with 20.78 per cent for the corresponding period last year.

the answers to which could not possibly have infringed on any constitutional rights."

The subcommittee, a unit of the Senate Judiciary Committee, is headed by Senator Eastland, Democrat of Mississippi. Other members are the parent committee's chairman, Senator McCarran, Democrat of Nevada, and Senator Watkins, Republican of Utah. On the basis of the report and related hearings, Senator McCarran issued a statement charging that "the Communist Party already has established the nucleus of a 'courier system' on the railroads for communication between its underground leaders."

"While the Food Workers," Senator McCarran continued, "are a small segment of railway labor, and are only effectively organized on the Pennsylvania, they are carrying on an intensive membership campaign with the aim of establishing themselves on other railroads and extending their operations from coast to coast. It will be obvious that members of a Communist-dominated union of this character, establish for the party a message channel as effective and more secret than the United States mail."

The subcommittee's report was based on testimony taken at closed sessions. Some of the "principal points in the testimony were summarized as follows:

After the discharge of Solon C. Bell [in 1947] as international representative of the Hotel and Restaurant Employees and Bartenders International Union and his removal as chairman of the joint Council of Dining Car Employees Unions, Bell and his associates met with leaders of the Communist Party . . . and formulated plans for a convention to be called for the crea-

## Diner Employees' Union Is Called Communistic

The Senate's internal security subcommittee "is concerned over the fact . . . that the Communists have gained a foothold in the railroad industry." This statement was made in the subcommittee's report on its investigation of "subversive influence in the Dining Car and Railroad Food Workers Union."

Since that union was organized, its "policies and activities . . . have been directed from the Communist Party headquarters in New York City," the report said. It noted that the union is now certified by the National Mediation Board as collective-bargaining agent "for approximately 2,200 dining car and railroad food workers employed by the Pennsylvania."

The union, the report added, also "has a number of dues-paying members on other railroads and maintains a corps of Communists who are in the process of organizing workers on other railroads." These "other railroads" were listed in the report as the Southern Pacific; Union Pacific; New York

Central; Illinois Central; Chicago, Milwaukee, St. Paul & Pacific; Chicago Great Western; Atchison, Topeka & Santa Fe; New York, New Haven & Hartford; Wabash; and Delaware, Lackawanna & Western.

The report recommended that "immediate attention" be given to the preparation of legislation "to preclude certification as a bargaining agent by the National Mediation Board of any organization which is Communist controlled"; and "to amend the Railway Labor Act to require the filing of non-Communist affidavits by officers of labor organizations representing a carrier."

A third recommendation was that contempt proceedings be instituted against Solon C. Bell, who was identified as president of the Dining Car and Railroad Food Workers Union. "When Solon C. Bell appeared before the subcommittee to testify," the report said, "he displayed a contemptuous attitude toward the subcommittee and refused to answer numerous questions,

## NEW SERVICES AND PUBLICATIONS OF INTEREST TO SHIPPERS

**CHESAPEAKE & OHIO**—"Freight Schedules for Handling Carload Shipments of Fruits and Vegetables from Florida," dated November 1. Gives routes and schedules on perishable traffic via the C. & O. and connections, as well as instructions for handling reconsigning.

**CLINCHFIELD**—"Fast Freight Service: Schedules for Fruits and Vegetables from Florida via Clinchfield Route."

**ILLINOIS CENTRAL**—Has issued a new "Directory of Less Carload Service," dated November 1.

**LOUISVILLE & NASHVILLE**—Has scheduled a new package car direct from St. Louis to Florence Transfer, S. C. (A.C.L.) In last month's Freight Traffic Issue it was erroneously stated that this car was to "Florence, Ala."

**NEW YORK CENTRAL**—Has made the following changes in its scheduled car lines:

### Car lines cancelled:

Black Rock, N. Y., to Gibson Transfer, Ind.; Albany, N. Y., to Springfield, Mass. ("Pacemaker"); Utica, N. Y., to Gibson Transfer and to Youngstown, Ohio; Niagara Falls to Dunkirk, N. Y., and Erie, Pa.; Cleveland to Danville, Ill.; Chicago (Polk st.) to South Bend, Ind. ("Pacemaker"); Worcester, Mass., to Jackson, Mich.; Gibson

Transfer to Scranton, Pa. (D.L. & W.), and to Worcester; Syracuse, N. Y., to Spencer Transfer S. C. (Sou.), to Long Island City (L.I.), to St. Louis (M.P.), and to Jackson, Mich.; Toledo, Ohio, to Angola, Ind., Battle Creek, Mich., and Bay City, to Chicago (C.B. & Q.), to Chicago (I.C.), to Kendallville, Ind., to Ligonier, to Millersburg, Ohio, and Edgerton, and to Sturgis, Mich., and Goshen, Ind.; Rochester, N. Y. to Watertown, N. Y., and to East St. Louis, Ill.; East St. Louis to Hartford, Conn. (N.Y., N.H. & H.), to Syracuse, N. Y., and to Mattoon, Ill.

### New car lines:

Gibson Transfer to Bay City, Mich. (tri-weekly), to Birmingham, N. Y. (D.L. & W.), to Springfield, Mass., to South Bend and Mishawaka (truck), and to LaPorte, Ind. (tri-weekly); Toledo to Galesburg, Ill. (C.B. & Q.); Troy, N. Y., to Pittsburgh (tri-weekly); Cincinnati to Galewood, Ill. (C.M.St.P. & P.); Utica, N. Y., to Springfield, Ohio (tri-weekly, "Pacemaker"); Chicago (Polk st.) to Gibson Transfer (truck), to South Bend, (truck), and to Mishawaka, Ind. (truck); and New York (33rd st.) to Springfield, Ohio (tri-weekly, "Pacemaker")

**SEABOARD AIR LINE**—Supplement to "Less Carload Merchandise Freight Service," dated November 1. Necessitated by several new truck routes and other schedule changes. Provides complete page replacements for pages where changes are necessary.

tion of the Dining Car and Railroad Food Workers Unions. At that meeting the comrades emphasized the importance of railroad unions to the Communist cause and how the Dining Car and Railroad Food Workers Union could spearhead the recruitment of railroad workers into the Communist Party . . .

A representative of the Dining Car and Railroad Food Workers Union is working in close collaboration with Harry Bridges in organizing dining car and railroad food workers on the west coast.

Manning Johnson, who was formerly a member of the national committee of the Communist Party and who formerly had been assigned to Communist activity in the railroad industry, testified that the transportation industry is of vital importance to the Communist Party because (a) control

of this industry will enable the Communist apparatus to paralyze the whole national economy, and (b) Communist Party members in the railroad industry can be used as couriers in transmitting communications, documents, and instructions in the illegal operations of the party.

Then came the expression of the subcommittee's concern over the "clearly-established" fact that the Communists have "gained a foothold" in the railroad industry. The report added: "Although the instant testimony reveals absolute Communist control of only a small segment of the railroad industry, in view of the importance of the railroad industry to the whole national economy, it is imperative that this Communist control be broken."

## Neff Fired as President, Still M. P.'s Chief Executive

New hearings in the long-pending Missouri Pacific reorganization case got off to a fast start last week when P. J. Neff, the third witness to appear, was fired as "president" of the M.P. because his testimony was "detrimental" to the road.

Mr. Neff, whose principal role is that of chief executive officer for the trustee, will continue in that position. His "firing" was thus academic for the moment, since Guy A. Thompson, the road's trustee, announced immediately that Mr. Neff would continue "as my chief executive officer."

T. C. Davis, chairman of the board of the debtor corporation, "fired" Mr. Neff as "president." The move came at the close of the first day of hearings before the Interstate Commerce Commission, which is reviewing the M.P.

reorganization plan approved in 1949.

The testimony to which Mr. Davis objected included statements to the effect that M.P. traffic has been declining since 1948, and increased freight volume since 1945 has been largely due to "temporary" factors. Such factors include the outburst of buying of heavy goods after World War II, and later the stimulus of the Korean war.

"It is clearly apparent that these factors are temporary and exceptional, and, in no sense, a barometer of what we can reasonably expect in the future," Mr. Neff said.

Within minutes after the close of the day's hearings, Mr. Davis, accompanied by Robert R. Young, chairman of the board of Alleghany Corporation, issued the following statement:

"I have just asked for and received

the resignation of P. J. Neff as president of the Missouri Pacific Railroad Company, effective immediately. This was prompted by the character of Mr. Neff's testimony and that of his chief accounting officer, Mr. (C. D.) Peet, which was detrimental to the credit of the M.P., hence harmful to all the bond and stockholders. The testimony was obviously prepared to fit the destructive position of the New York financial groups."

Mr. Young, whose Alleghany Corporation holds a large block of M.P. common stock and who is active in the fight for a reorganization plan which will not wipe out that stock, said he had no comment on Mr. Neff's dismissal other than to say, "I approve."

The I.C.C. hearings at which Mr. Neff and Mr. Peet testified were requested by various parties last July. Roger T. Boyden, assistant director of the commission's Bureau of Finance, and Vernon V. Baker, chief of the Section of Loans and Reorganizations, are presiding at the hearings.

Much of the opening day testimony—the hearings were still in progress as this issue went to press—was taken up by the filing of financial exhibits by Mr. Peet. Among other things, Mr. Peet testified that 1951 net income of the M.P. is estimated at \$13,129,000, compared with a net of \$22,113,502 in 1950.

The new hearings, while technically on whether the I.C.C. should reconsider the road's reorganization plan, amount to an investigation of the road's current financial situation. The previous plan approved by the commission, now before the courts, would, among other things, wipe out M.P. common stock.



The principal fight is therefore between the so-called institutional bondholders and stockholders, with the latter claiming that M.P. earning power is sufficient to give value to their stock. As noted earlier, Alleghany Corporation is a principal stockholder.

This fact brought Mr. Young, the Alleghany chairman, to Washington, D. C., last week to participate in the hearings. While he was in town a report was circulated in several newspapers that he would shortly leave the Chesapeake & Ohio, where he is also board chairman, and become a director of the New York Central. Alleghany also holds a substantial block of N.Y.C. stock.

Mr. Young on November 27 issued a denial to reports that he would shortly go on the N.Y.C. board. He pointed out that he "could" do so by resigning from the C.&O. but did not say when or if he would make such a move.

### Vanderloy M Process of Electrodepositing Cast Iron

The van der Horst Corporation of America demonstrated the application of the Vanderloy M process of electrodepositing cast iron to a group of business paper representatives at Olean, N. Y., on November 14. The process is employed in building up worn cylinder bushings, worn crankshafts, and other worn machinery parts. The plant for its application, which has recently been placed in operation, is 60 ft. wide by 288 ft. long. Facilities include cleaning tanks, machining facilities for restoring concentricity of bores and bearings, and a production line of baths for preparation of parts and electro depositing the iron.

Vanderloy M is the result of a program of investigation of all known methods of electrodepositing iron undertaken by the van der Horst laboratories several years ago. The new electrolytic iron develops a fine columnar structure with the axis of the grains perpendicular to the surface on which the metal is deposited. The bond is established atomically between the Vanderloy M and the base metal and is indestructible. Failure occurs in one or the other of the metals, not at the bond.

The Vanderloy M bath is adapted to the plating of heavy deposits. Deposits can be made of 1/4 in. or greater radial thicknesses with neither grain growth nor roughness. The bath is stable and produces these results within practicable limits of current density and working temperature, low enough to permit masking of parts by application of low cost wax.

Applications for the new Vanderloy M plating process so far developed have come largely from users of the original Porus-Krome process now employed extensively on wearing surfaces of new and reconditioned diesel locomotive cylinder sleeves. Used with the Porus-Krome process, the

economic limitations on thickness imposed on chrome plating are extended so that parts can be reclaimed after much greater wear than is practical with Porus-Krome alone. Restoration is effected by a heavy deposit of iron surfaced with a light deposit of chrome.

### Two Streamliners in Head-on Collision

A head-on collision on the Southern between the streamlined "Southerner" and the streamlined "Crescent" at Woodstock, Ala., November 25, resulted in the death of 17 persons and injuries to 30 others — including six designated as "serious."

The scene of the accident was the Woodstock passing track, which is about 29 miles southwest of Birmingham on the Southern's main line to New Orleans. The "Crescent"—which normally operates via the Louisville &

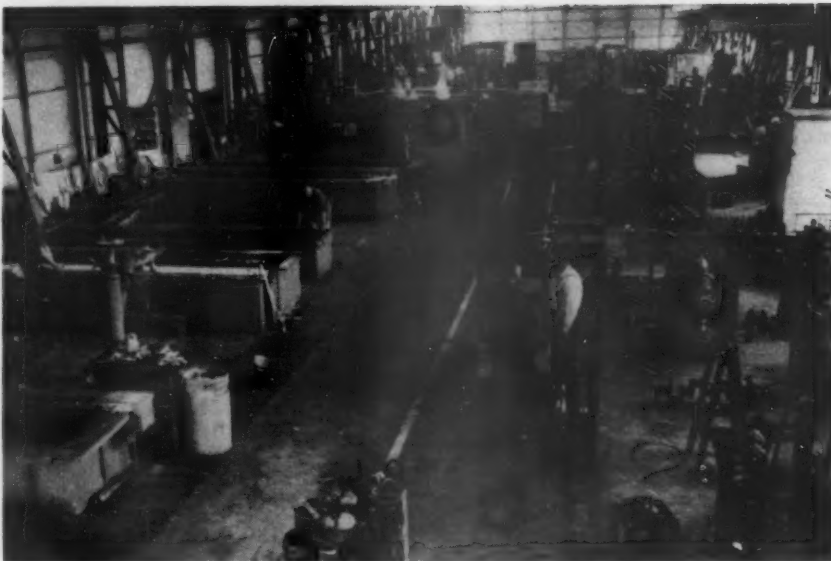
Nashville between Montgomery and New Orleans—was detouring from its usual route because a bridge on the L.&N. had been damaged by a barge.

According to preliminary reports, the detouring "Crescent" was being run as the second section of train No. 47, the southbound "Southerner." Both first and second No. 47 were to meet the northbound "Southerner" (train No. 48) at Woodstock. After first No. 47 had cleared the siding, No. 48 started to pull out when second 47 (the "Crescent") approached at about 65 m.p.h. The point of collision was a concrete overpass and several of the cars went over the 40-ft. embankment.

Most of the casualties were in the combination baggage-coach on the head end of the "Southerner," which was badly telescoped and knocked back onto the second coach, which was believed to be empty. The fact that the "Crescent" had a full-length head-end car which acted as a buffer for the im-



A typical group of parts as received



Parts are received at the far end of the floor, are cleaned and machined on the right side, and pass from front to rear through the preparation and plating tanks at the left

## Car Surpluses and Shortages

Average daily freight car surpluses and shortages for the week ended November 24 were announced by the Association of American Railroads on November 29 as follows:

	Surplus	Shortage
Plain Box .....	233	1,335
Auto Box .....	151	40
<b>Total Box .....</b>	<b>384</b>	<b>1,375</b>
Gondola .....	14	1,163
Hopper .....	0	1,397
Covered Hopper ...	0	5
Stock .....	1,503	131
Flat .....	75	241
Refrigerator .....	2,514	0
Other .....	327	85
	<b>4,817</b>	<b>4,397</b>

fact is believed to have materially reduced the extent of injuries among "Crescent" passengers.

Because the engineman of the north bound "Southerner" was killed in the accident, it may never be determined why he failed to await the second train at Woodstock. Reports indicate that the engineman of No. 47 sounded the regulation signal — one long and two shorts—for "another section of following" when he passed No. 48 at the siding. It was also reported that No. 47's locomotive carried proper flags to indicate a following section. In addition, the territory, which is single-tracked, is equipped with centralized traffic control, which apparently was in working order. It was not clear, however, if the engineman of No. 48 responded to No. 47's horn signal. Four other employees beside No. 48's engineman were killed. The "Crescent's" engineman though injured, survived.

The "Crescent" is comprised of streamlined equipment furnished by the Pennsylvania, the Southern, the Western of Alabama, the Atlanta & West Point and the L&N., over whose joint route it normally operates daily between New York and New Orleans. The all-coach "Southerner" also operates between New York and New Orleans, but is operated entirely on the Southern except between New York and Washington, D. C.

## Western Pacific to Test "Compartmentizer" Cars

The Western Pacific is currently taking delivery of 20 Pullman-Standard PS-1 box cars equipped with a refined version of the "Compartmentizer" — moveable bulkheads — which Pullman-Standard announced last spring (*Railway Age*, May 7, page 34). The cars are a portion of an order of 600 PS-1 box cars on which delivery has otherwise been completed.

Chicago shippers were invited to inspect and comment upon one of the

cars which was placed on display in Union Station on November 20. H. R. Poulterer, vice-president in charge of traffic for the W.P., pointed out how the cars could accommodate partial shipments without mixing the lading; how "Compartmentizer" bulkheads can be folded out of the way during loading and unloading so as not to interfere with freight handling equipment, and how they can be moved to any position in the car and locked in place by one man without the need to install any parts or fittings.

"We are planning to 'throw the book' at them by urging our shippers to try them for all types of lading and service conditions," Mr. Poulterer told *Railway Age*. "The railroads must learn to do things more efficiently and economically if they are to stay in the competitive l.c.l. field. The 'Compartmentizer' appealed to us as worthy of greater testing and our initial order was placed with Pullman-Standard to permit us to explore new uses for this type of equipment while at the same time working out any technical 'bugs' which actual service conditions might reveal. After that test period has passed, I expect we will be looking for additional equipment of this type," he said.

## Jumping the Gun

*Railway Age* was a bit premature in announcing on page 10 of its November 5 issue that another "Griffin Plan" was in effect at Louisville, Ky. However, first steps are now under way—and were then—to set up such a plan, proving again that smoke and fire generally go together.

## C. & O. Tray Meals Permit Diner Run to Break Even

The Chesapeake & Ohio's experiment with meals of pre-cooked frozen food served on trays (*Railway Age* September 24, page 68), indicates the new type service will permit a dining car run to at least break even between costs and revenues. Thomas J. Deegan, Jr., vice-president in charge of passenger traffic and public relations, has announced. Nine out of 10 patrons who wrote their reactions praised the new type service and only a few expressed preference for traditional dining car service, he added.

Diners are given menus on which five complete meals are listed and asked to check the one they want. Each entree comes in an aluminum platter sealed under foil, is quick-heated to order in an electric oven and served on a compartmented tray with soup or appetizer, salad, roll and butter, dessert and beverage. Prices of meals range from 95 cents to \$2.20.

The service was operated for six weeks on two trains between Washington, D. C., and Charlottesville, Va., and is now running between Cincinnati and Ashland, Ky., on the "F.F.V." westbound and the "Sportsman" east-

bound. Further testing will be done under direction of J. A. Malcolm, general superintendent of dining service. As soon as another diner is equipped with necessary special ovens, the service also will be extended to the C. & O. "Pere Marquette" streamliners between Detroit and Grand Rapids.

## Freight Car Loadings

Loadings of revenue freight in the week ended November 24, which included the Thanksgiving holiday, totaled 711,447 cars, the Association of American Railroads announced on November 29. This was a decrease of 102,988 cars, or 12.6 per cent, compared with the previous week; an increase of 9,896 cars, or 1.4 per cent, compared with the corresponding week last year; and an increase of 46,892 cars, or 7.1 per cent, compared with the equivalent 1949 week.

Loadings of revenue freight for the week ended November 17 totaled 814,435 cars; the summary for that week, as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS			
For the week ended Saturday, November 17			
District	1951	1950	1949
Eastern .....	134,625	143,647	132,774
Allegheny .....	162,030	167,268	138,340
Pacahontas .....	65,850	63,038	74,187
Southern .....	134,212	139,146	130,916
Northwestern ..	115,631	120,492	84,781
Central Western ..	135,804	136,634	132,087
Southwestern ...	66,283	67,233	65,887
<b>Total Western Districts .....</b>	<b>317,718</b>	<b>324,359</b>	<b>282,755</b>
<b>Total All Roads .....</b>	<b>814,435</b>	<b>837,458</b>	<b>758,972</b>
Commodities			
Grain and grain products .....	53,148	58,782	51,518
Livestock .....	11,280	12,731	12,190
Coal .....	167,727	163,052	210,605
Coke .....	16,299	16,303	6,618
Forest products ..	44,710	47,348	42,223
Ore .....	56,623	51,524	20,412
Merchandise l.c.l. ..	72,813	85,296	85,061
Miscellaneous ..	391,835	402,422	330,345
November 17 ..	814,435	837,458	758,972
November 10 ..	791,403	839,880	635,823
November 3 ..	837,743	863,149	578,981
October 27 ..	863,961	887,935	591,315
October 20 ..	886,648	891,230	589,088

Cumulative total  
46 weeks ... 36,263,871 34,571,303 32,125,333

**In Canada.**—Car loadings for the week ended November 17 totaled 83,513 cars, compared with 83,987 cars for the previous week and 88,338 cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
November 17, 1951 ..	83,513	33,670
November 18, 1950 ..	88,338	34,460
Cumulative totals for Canada:		
November 17, 1951 ..	3,712,108	1,586,475
November 18, 1950 ..	3,454,015	1,448,964

## 1951's 2nd-Quarter Loading Estimate Was 3.2% Low

The 13 Regional Shippers Advisory Boards underestimated car loadings for the second quarter of 1951 by 3.2 per cent, according to the latest comparison of forecasts with actual loadings. Chairman A. H. Gass of the Car Serv-



COMPARISON: ESTIMATED NATIONAL FORECAST,  
REGIONAL SHIPPERS ADVISORY BOARDS, WITH  
ACTUAL CAR LOADINGS, SECOND  
QUARTER 1951

Board	Car Loadings Second Quarter 1951		Percentage of Accuracy	
	Estimated	Actual	Over Est'd.	Under Est'd.
Central				
Western	238,740	252,832		5.9
Pacific Coast	401,755	396,023	1.4	
Pacific Northwest	277,154	282,250		1.8
Great Lakes	679,326	656,972	3.3	
Ohio Valley	988,283	1,011,680		2.4
Mid-West	942,909	904,096	4.1	
Northwest	626,036	743,430		18.8
Trans-Mo-				
Kansas	366,960	371,963		1.4
Southeast	974,938	1,138,486		16.8
Southwest	508,440	505,087	0.7	
New England	131,633	124,709	5.3	
Atlantic States	794,153	848,861		6.9
Allegheny	1,063,504	1,015,641	4.5	
Totals	7,993,831	8,252,030		3.2

ice Division, Association of American Railroads, issued the comparison.

It showed underestimates by seven boards and overestimates by the six others. By commodity groups there were 21 underestimates and 11 overestimates. The range was from an underestimate of 33.6 per cent in the case of hay, straw and alfalfa, to an overestimate of 11.1 per cent in the case of "other fresh fruits."

In addition to that on hay, straw and alfalfa, there were underestimates of more than 10 per cent for six other commodity groups. These included an underestimate of 30.2 per cent for chemicals and explosives, and 22.2 per cent for iron and steel.

The range of overestimates was from 0.05 per cent for "other metals" to the 11.1 per cent for other fresh fruits.

## RRs Being Made "Fall Guy" Of Inflation, Says Metzman

"Railroads are being made the 'fall guy' of inflation," Gustav Metzman, president of the New York Central, said in a statement in a recent issue of the road's magazine distributed to employees and stockholders. "Never before in a period of general prosperity," he added, "has a big and vital industry like the railroads shared so skimpily in the country's overall economic health."

## MORE NEWS ON PAGE 98

Additional news appears on page 98, with news departments beginning on the following pages:

Organizations	98
Supply Trade	99
Equipment & Supplies	100
Financial	102
General News (continued)	102
Railway Officers	122

"Railroads have gone through periods of scanty earnings before, as most are doing now, but never at a time when business in general was vigorously expanding; never at a time when every sign pointed, as now, to bigger national production and the need for bigger and better railroad plants to furnish transportation for both civilian and military goods. In short, never before have railroads been asked to do so much and been allowed so little to do it with."

Saying that "we on railroads can't help but feel that there's a great deal of public and governmental indifference to our plight," Mr. Metzman said the main reason earnings are at a "starvation" level is because railroad freight rates "have been held down

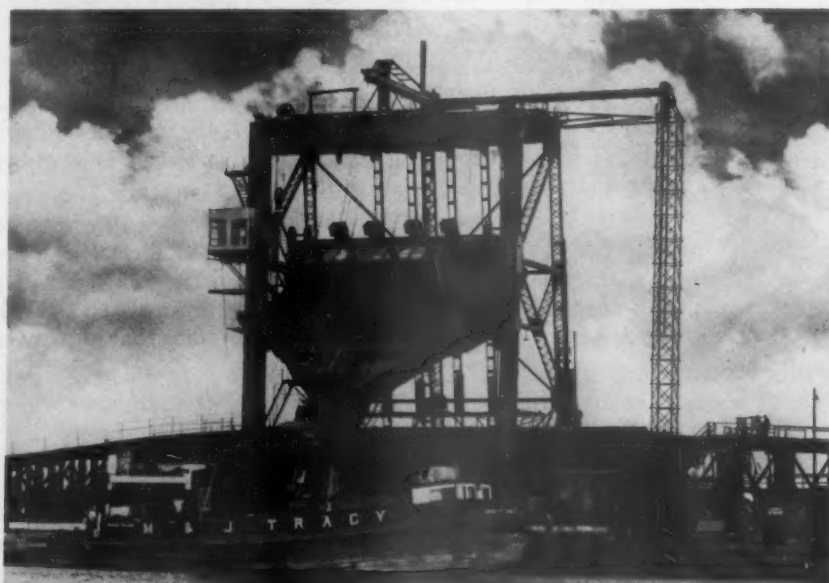
while our costs of doing business have gone up, up, up. Our rates are regulated; we have to get authority from the Interstate Commerce Commission before we can bring them into line with costs. As long as we're prevented from bringing them into line we don't have a chance to earn the money we need in order to carry on essential improvement programs."

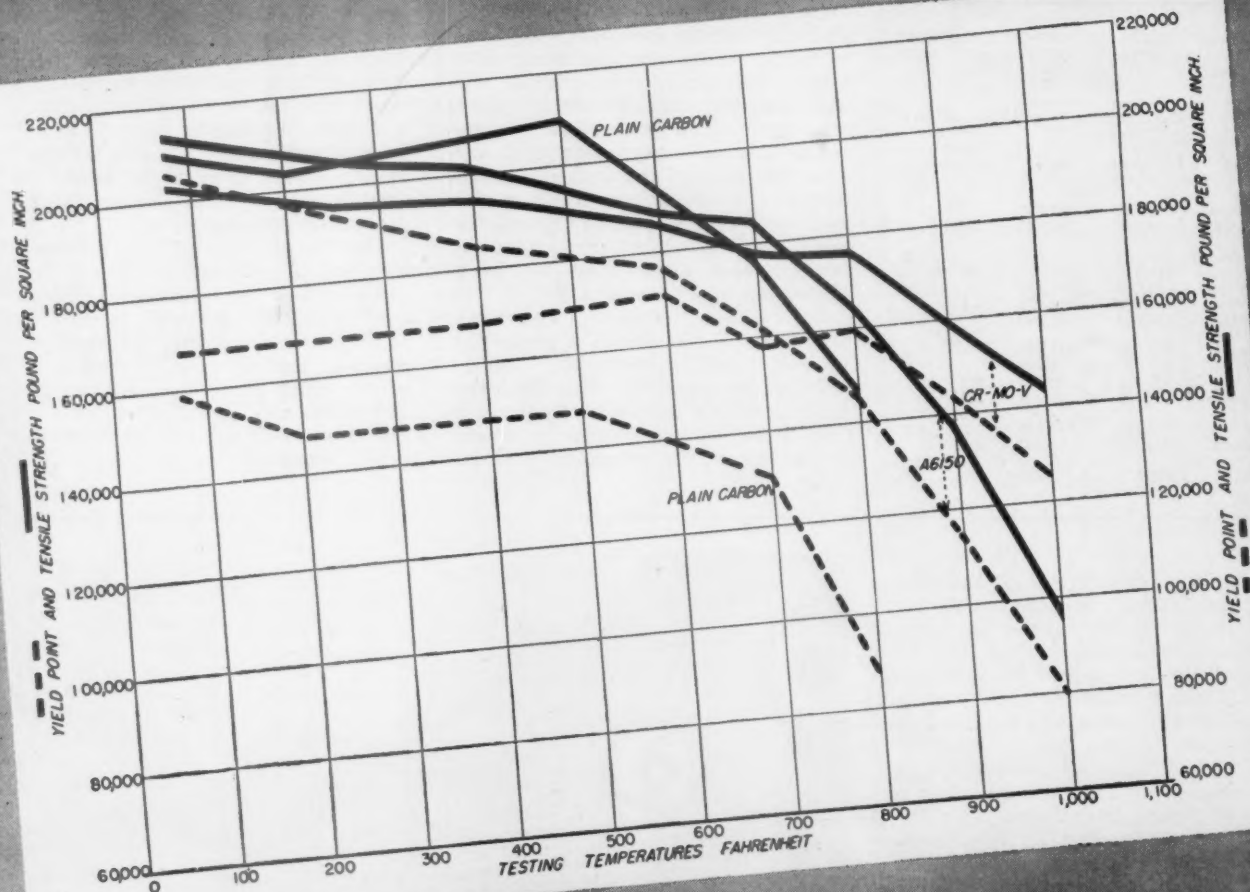
This is why the nation's railroads, the Central president continued, "are again before the commission asking for the full 15 per cent increase in freight rates which they originally requested, instead of the partial increase which the commission granted in its decision of last August. We need higher rates if we're going to go on doing our job."



THE READING'S MCMYLER COAL DUMPER at Port Reading, N. J., destroyed by fire last July 9 (upper picture), is again in full operation after having been completely rebuilt in a period of 120 days. Some parts of the old dumper were saved from the fire and rebuilt, and some machinery was used from a dumper purchased from the New York, Susquehanna & Western. The new construction has reduced fire

risk to a minimum—a wooden trestle carrying the light car track in the rear of the dumper and a wooden engine-house have been entirely replaced with steel; pier tracks from dumper to shore are carried on steel and concrete decks, and a sprinkler system has been installed in the Barney pit. The dumper supplies approximately 20 per cent of the coal used throughout the New York harbor





## HIGH TEMPERATURE PROPERTIES of Cr-V and Cr-Mo-V Spring Steels

**S**PRINGS FOR SERVICE at elevated temperatures require steels which resist softening and lowering of the yield point. Unless hardness and yield strength are stabilized by correct alloy additions to the steel, these properties deteriorate rapidly as the temperature is raised.

The chart above shows the yield point and tensile strength of three types of spring steel at elevated temperatures determined by standard short-time tension tests.

Springs of plain carbon steel are sometimes used at moderately elevated temperatures, although their lower yield values prevent them from giving service as satisfactory as that of the alloy spring steels.

Chromium-vanadium steel springs, such as AISI 6150, give better service at ordinary temperatures because of the higher yield point. In addition, they may be used at operating temperatures up to about 700° or 750° F

because they retain high yield point values as the temperature is increased.

Chromium-molybdenum-vanadium steel was especially designed for springs operating at temperatures in excess of 750° F. It can be used for springs operating at temperatures as high as 850° F or even higher under some conditions. At 800° F, the yield point of this steel is still greater than that of plain carbon steel at room temperature.

If you have a problem in spring applications at elevated temperatures, our metallurgical engineers will be glad to help you solve it.

MAKERS OF  
ALLOYS



CHEMICALS  
AND METALS

## VANADIUM CORPORATION OF AMERICA

420 LEXINGTON AVENUE, NEW YORK 17, N. Y. • DETROIT • CHICAGO • CLEVELAND •





# EVERY CAR IS A TARGET!

In the hump yard, every car's a target . . . a sitting duck for the car you shoot at it. When cars couple, impact forces upon the struck car are equal to those upon the striking car . . . and with heavy cars rolling, more often than not, at speeds of 5, 6, 7 and more miles per hour, these forces are sufficient to seriously damage conventional cars and shatter lading.

With each car subjected to these impact forces twice every time that it is humped, you have double reason for equipping all of your freight

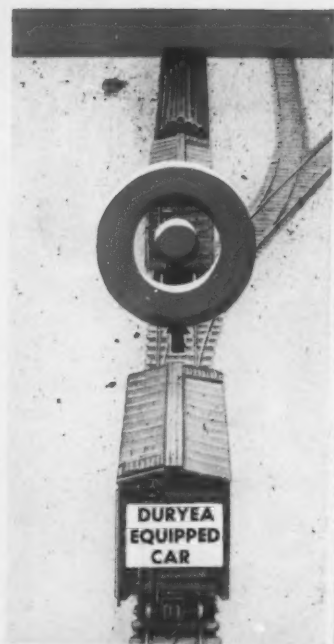
cars with Duryea Cushion Underframes. When the Duryea equipped car is the striking car, you get that 40% extra lading protection. But when the Duryea equipped car is the struck car, protection is complete . . . 100%. The damage potential in this one hump operation is cut in half. Hence, the extra lading protection afforded by Duryea Cushion Underframe in this one hump operation, comprised of two successive impacts, is not 40% but actually 80%. The way today is to specify Duryea.

**HULSON CO.**

332 SOUTH MICHIGAN AVENUE CHICAGO 4, ILLINOIS

# duryea

cushion underframe



## FIRST IMPACT

The DURYEA equipped car rolling down the hump strikes to couple with a standing car. The DURYEA 36,000 lb. capacity before closure provides that 40% extra lading protection.



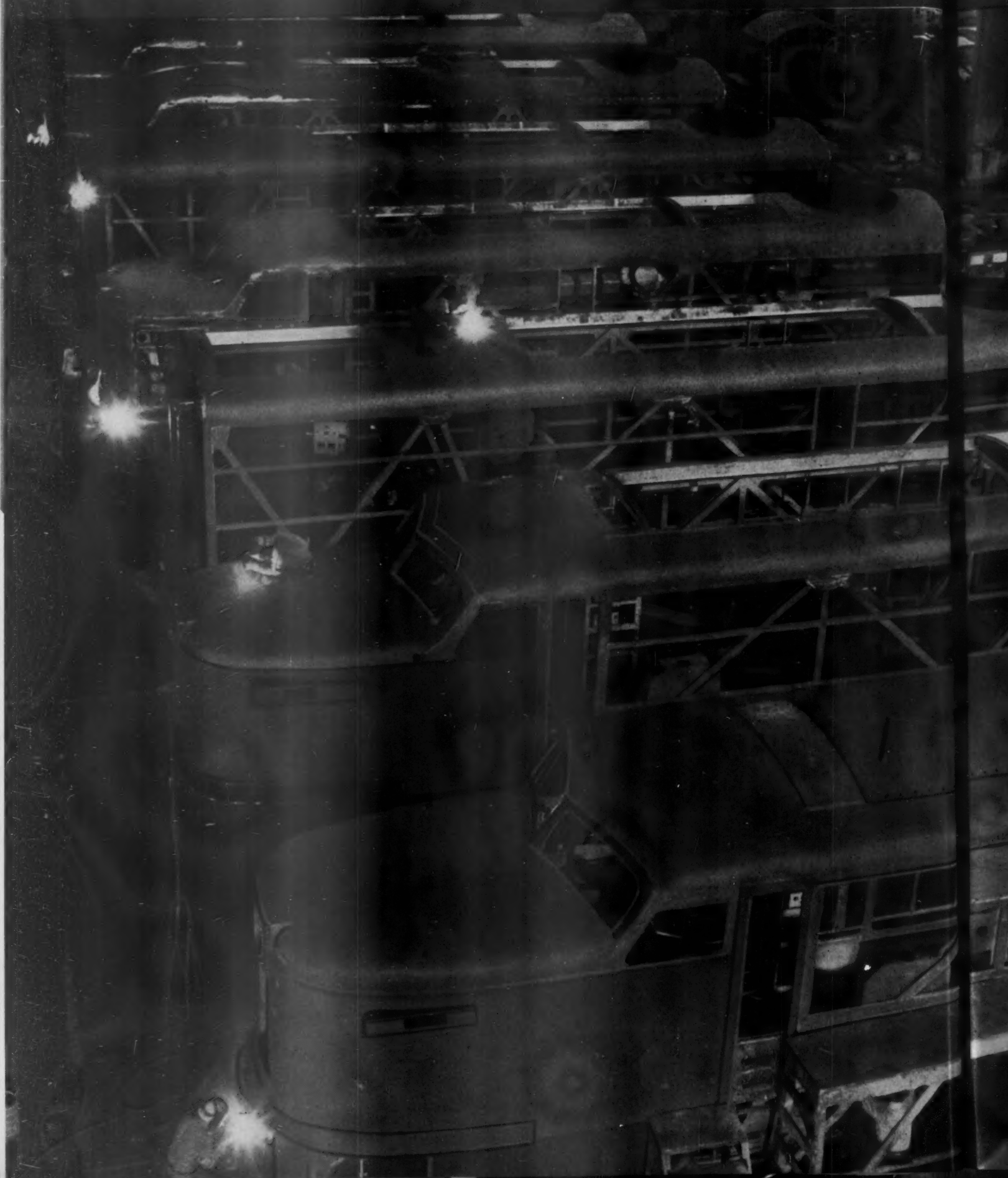
## SECOND IMPACT

The DURYEA equipped car is now the struck car but, due to the floating center sill, closure does not occur even under excessive impact and there is slight shock transferring to car or lading. Protection is 100%.



THE SILL MOVES WHILE THE CAR STANDS STILL

# ONLY THE ORIGINAL





# MANUFACTURER...

... of your ALCO-GE locomotives  
can offer you a renewal parts  
service with all these features:

1. A convenient source for all your parts needs.
2. Parts specialists available to work directly with your personnel to help you anticipate your parts requirements.
3. Complete service engineering facilities to assist you in setting up maintenance programs.

Moreover, when you buy parts from the original locomotive manufacturer you are assured of maintaining the original balance of design and high performance level of your locomotives. And you automatically get the advantages of latest design improvements.

This means you get *real* economy when you buy parts from the locomotive builder.

*parts AND service*

Alco



AMERICAN LOCOMOTIVE  
and  
GENERAL ELECTRIC

# *Standardize...*

on diesel-starting batteries with interchangeable

## **Exide-Ironclad BATTERIES**





# ...and Save

by cutting down the number of batteries required as spares

Exide-Ironclad standardization is made possible by an all-purpose molded container assembly. Because of this construction, two types of Exide-Ironclads—both universally interchangeable—fully meet the battery needs of diesel-electric locomotives of practically every size and make. In addition to the economies this standardization provides, Exide-Ironclad Batteries give you:

**QUICK BREAKAWAY** and fast acceleration of engine to firing speed.

**HIGH POWER RESERVE** at all times for positive operation of control equipment.

**HIGH AVAILABILITY**—uninterrupted on-line service.

**LOW RATES OF DEPRECIATION**—exceptionally long life.

**LOW COSTS** of operation, upkeep, repair.

**EASE OF MAINTENANCE**—easy to add water and keep charged.

**RUGGED CONSTRUCTION** for hard, continuous use.

**INHERENT SAFETY**—freedom from hazards of fire or disruptive breakage.

These and other qualities combine to make Exide-Ironclad the best battery buy... at any price.

## THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 2

Exide Batteries of Canada, Limited, Toronto

"Exide-Ironclad" Reg. Trade-mark U. S. Pat. Off.

1888...DEPENDABLE BATTERIES FOR 63 YEARS...1951

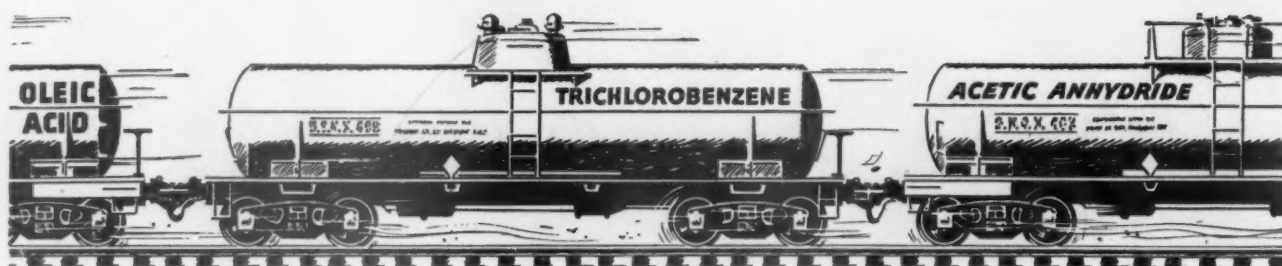


◀ Type MV-17-D Exide-Ironclad Battery—284 ampere hours—for cranking switching locomotives of 600 hp. and larger.

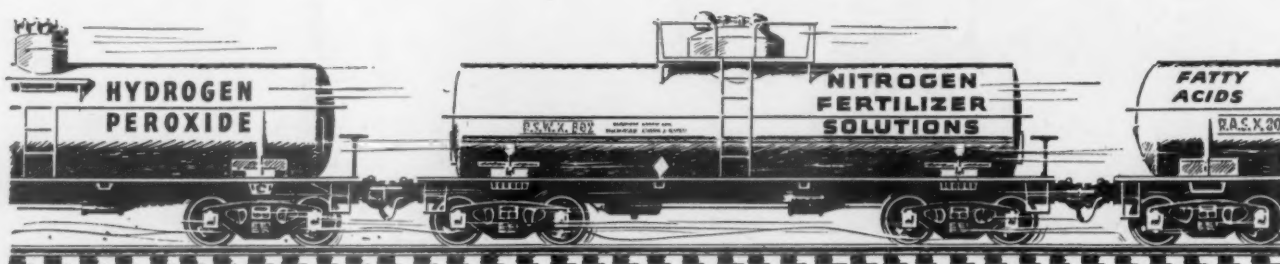


Type MV-25-D Exide-Ironclad Battery—426 ampere hours—for cranking road locomotives of the larger sizes. ▶

WHEN IT'S AN EXIDE-IRONCLAD YOUR DIESELS **START**



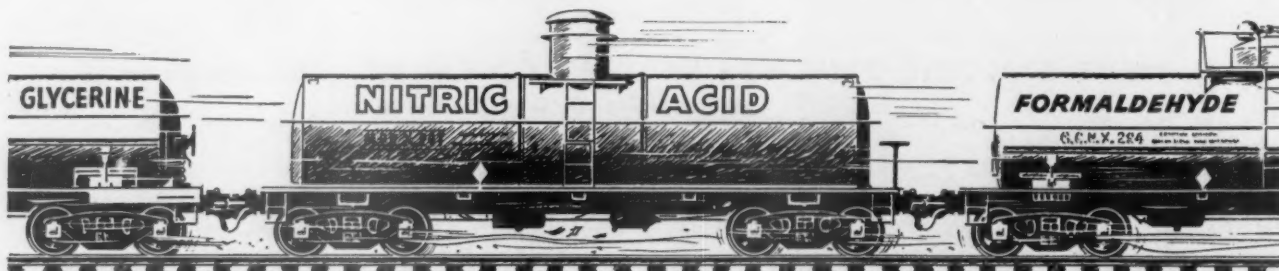
Leading shippers report: No damage to



ladings...no damage to cars, when



valuable liquids like these are delivered

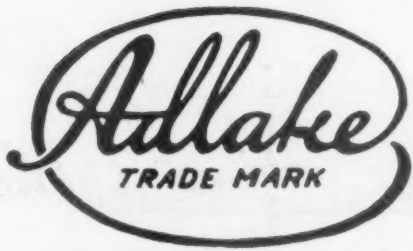


in tank cars of Alcoa Aluminum.



For information on aluminum tank cars, contact your car builder, or write:  
ALUMINUM COMPANY OF AMERICA, 1816M Gulf Building, Pittsburgh 19, Penna.





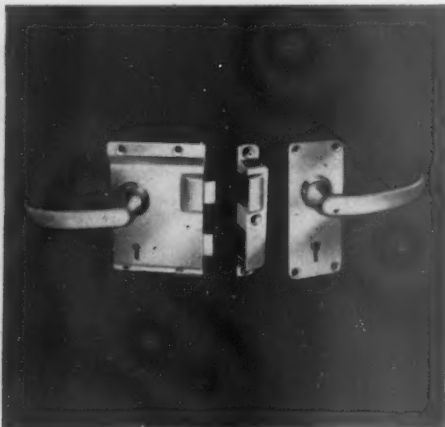
**HARDWARE...for**

# dependability

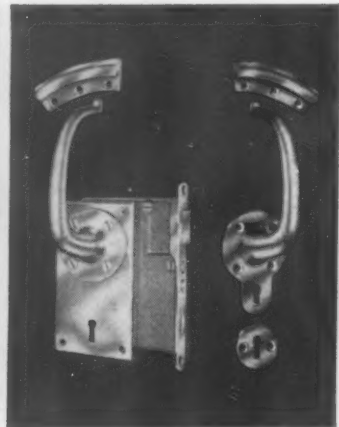
and lasting beauty



ADLAKE No. 1361 Saloon Door Lock



ADLAKE No. 1532 End Door Lock



ADLAKE No. 1439 End Door Lock

**You'll find** that the smooth operation and long-lasting good looks of ADLAKE Door Locks make them a "natural" for every modernization job. Designed in both modern and traditional styles, they add an attractive touch to car interiors, and their sturdy construction makes them absolutely dependable.

**In addition** to a full line of door locks, luggage racks, coat and hat hooks, and other hardware, ADLAKE manufactures such varied items as vestibule and window curtains, diaphragms—and, of course, famous ADLAKE "Breather"

Windows, the windows chosen by nearly all of America's leading railroads.

**Every piece** of ADLAKE equipment is built for long service, minimum maintenance, and easy, certain operation . . . and every piece incorporates the experience gained in almost a century of manufacturing for the transportation industry.

**For complete information**, write for our catalog No. 150. Address The Adams & Westlake Company, 1109 N. Michigan, Elkhart, Indiana. No obligation, of course.

## THE Adams & Westlake COMPANY

Established 1857 • ELKHART, INDIANA • New York • Chicago

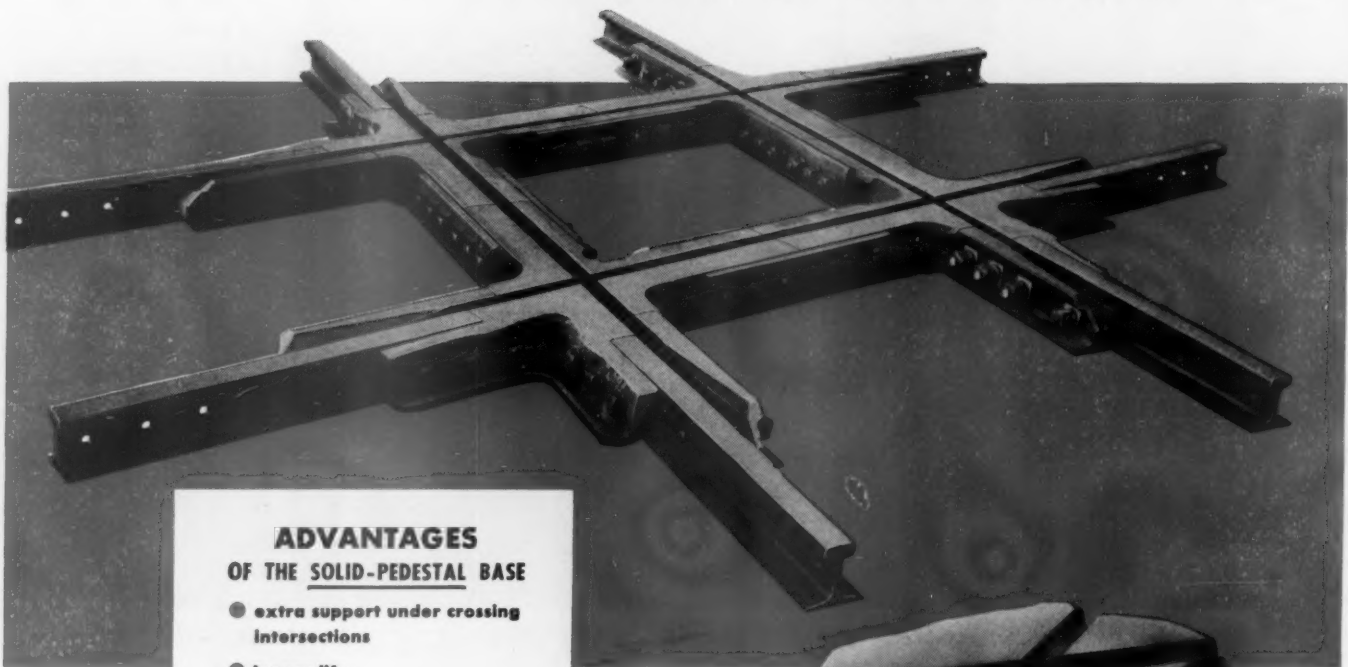
Manufacturers of ADLAKE Specialties and Equipment for the Railway Industry

The most important  
crossing improvement  
in recent years...

*Solid-pedestal base plus*

# U·S·S MANGANESE STEEL

*more durable, lower in*



## ADVANTAGES OF THE SOLID-PEDESTAL BASE

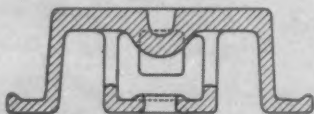
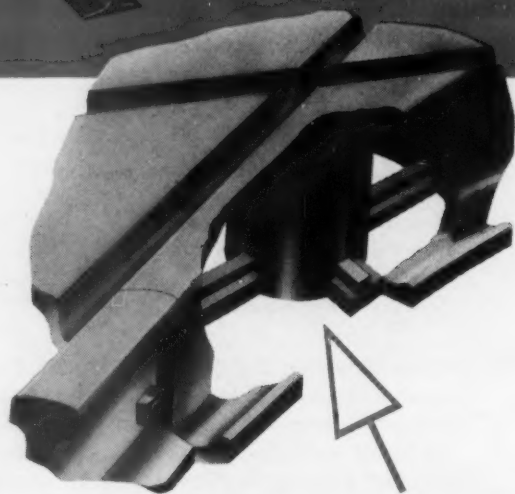
- extra support under crossing intersections
- longer life
- improved physical properties
- sounder metal

### Compare these diagrams

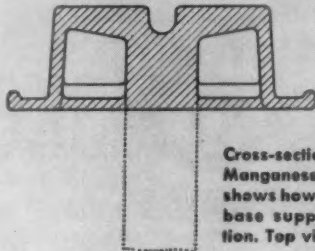
They show clearly why the U·S·S Manganese Steel Railroad Crossing is stronger and more durable.

Below the track intersection, where wheel impact is most severe, the ordinary crossing is hollow (below, left). In the U·S·S Crossing this part is of solid metal giving firm and additional support where it is needed most (center and right, below). It's easy to see why this construction lasts longer.

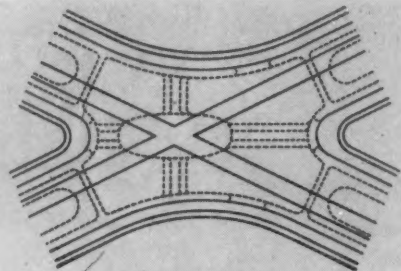
The dotted line in the center diagram indicates the approximate size of the reservoir necessary to handle the extra feed-metal used in casting a new U·S·S Manganese Steel Railroad Crossing. This reservoir (or riser), weighing from 200 to 350 lbs. is cut off and scrapped after the casting has solidified.



Cross-section of old-style manganese steel crossing. Note numerous ribs required to brace the intersection.



Cross-section of new U·S·S Manganese Steel Crossing shows how solid-pedestal base supports intersection. Top view at right.





# depth-hardened corners make RAILROAD CROSSINGS maintenance, smoother riding

A solid pillar of tough manganese steel directly under all crossing intersections is the exclusive feature that distinguishes this newly developed crossing. Here, where maximum strength is required to resist the destructive pounding of today's faster, heavier trains, the U-S-S Manganese Steel Railroad Crossing is extra strong.

The solid-pedestal base, an integral part of the casting, substantially reduces deflections resulting from wheel batter, a major cause of internal cracks that ultimately lead to complete deterioration of crossings. This vertical pillar of solid metal, rigidly reinforced, is far stronger than any other type of intersection support used today.

## Depth-hardened corners reduce maintenance costs, assure smooth riding right from the start

Depth-hardening is another valuable, money-saving feature of the U-S-S Manganese Steel Railroad Crossing.

The ordinary manganese steel crossing is produced to a surface hardness of approximately 200 Brinell. The wheel batter of the first long train is depended on to work-harden the surface to approximately 400 Brinell—the hardness required to stand up under modern rail traffic. Though crudely effective, this wheel pounding also batters down the intersection corners—makes it necessary to build them back to normal track level repeatedly by welding

and grinding. This costs money. Metallurgical advances have improved new U-S-S Manganese Steel Railroad Crossings in still another way. By using more feed-metal (5 to 10 times more than is used in ordinary crossings) and exercising closer control over feeding, liquid metal under greater pressure flows unrestricted at the proper time to the solidifying area, preventing the formation of many of the pores and cavities characteristic of manganese castings.

Thus, in addition to the extra vertical support provided by the solid-pedestal base, the entire casting is sounder, freer of internal flaws, and less susceptible to spalling, chipping or cracking.

In contrast, the improved U-S-S

Railroad Crossing has raised pads cast integrally on the three critical crossing corners of each intersection. These are shop-hammered to develop the desired hardness, and then ground down to track level to assure smooth riding. This controlled pre-hammering insures the proper depth hardness before installation, eliminates almost entirely the damaging effect of subsequent wheel batter, and virtually eliminates maintenance costs. (U-S-S Manganese Steel Railroad Crossings are also available without depth-hardening.)

## Here's why pre-hammered, depth-hardening reduces crossing maintenance

Wheel pounding is the only way the ordinary manganese steel crossing gets sufficient hardness. (Fig. 1) The first long train that batters across the intersection crudely work-hardens the steel to approximately 400 Brinell. But it also batters down the corners about  $\frac{1}{4}$ ". It takes expensive welding and grinding to rebuild the corners back up to track level.

We avoid this trouble by casting the U-S-S Manganese Steel Crossing with  $\frac{3}{4}$ "-high pads on the three critical corners (see Figs. 2 and 3). These pads are carefully shop-hammered close to track level to develop approximately 400 Brinell hardness, and are then ground to true level prior to installation. It saves time and money, gives you a smooth-riding crossing without rebuilding.

## ADVANTAGES OF THE DEPTH-HARDENED CORNERS

- pounding-down of corners virtually eliminated
- maintenance costs greatly reduced
- much longer life due to higher impact resistance
- smooth riding without rebuilding

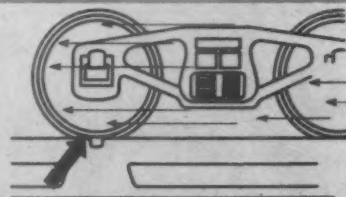


FIG. 1

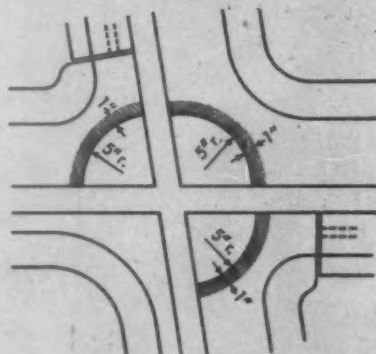


FIG. 2

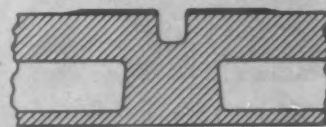


FIG. 3

For the complete story on this crossing, send for descriptive literature. Coupon is attached for your convenience.

United States Steel Company  
Room 4310, 525 William Penn Place  
Pittsburgh 30, Pa.

Please send me a copy of bulletin "Improved U-S-S Manganese Steel Railroad Crossings."

Name.....

Company.....

Address.....

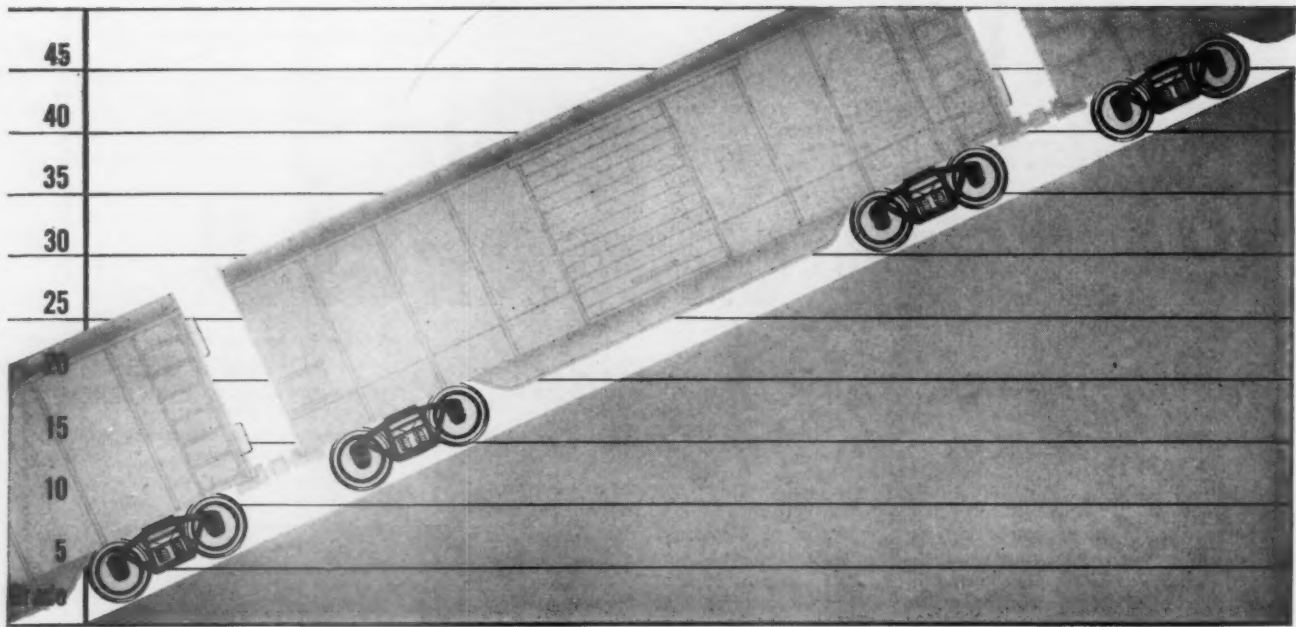
City.....Zone.....State.....

T-912



UNITED STATES STEEL COMPANY, PITTSBURGH • COLUMBIA STEEL COMPANY, SAN FRANCISCO  
TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM  
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

UNITED STATES STEEL



## Chilled Car Wheels Pull 45% Grade

AMCCW chilled car wheels literally "made the grade" shown above . . . a graphic presentation of the improved performance record of AMCCW wheels over the past 15 years. The base used is car miles per wheel without failure, according to ICC reports. In tabular form, it looks like this:

1935-1939 . . . . .	77,000,000 car miles
1940-1944 . . . . .	86,800,000 car miles
1945-1949 . . . . .	111,600,000 car miles

These averages tell only part of the story. In 1949 the record shows 150,000,000 car miles per wheel without failure, well above the five-year average. The 1950 figure, not yet official, matches this excellent 1949 performance.

Nor is this all. The AMCCW wheel you buy today is the new car wheel approved by the AAR in September, 1950, with its heavier rim and stronger flange. All available evidence points toward **even better records** for freight cars equipped with this improved AMCCW car wheel.

The railroad that specifies chilled car wheels today will reap a bonus benefit in the years ahead.



**NOW, more brackets—thicker, heavier, more continuous flange support; heavier tread on both rim and flange sides.**

- Low first cost
- Low exchange rates
- Reduced inventory
- Short haul delivery
- Increased ton mileage
- High safety standards
- Complete AMCCW inspection
- Easier shop handling




### ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS

445 North Sacramento Boulevard, Chicago 12, Ill.

American Car & Foundry Co. • Southern Wheel (American Brake Shoe Co.)  
 Griffin Wheel Co. • Marshall Car Wheel & Foundry Co. • New York Car Wheel Co.  
 Pullman-Standard Car Mfg. Co.





**N.I.T.L.**

**EVANS**

**DF Loaders**

**Damage Free**

**Damage Free**


**NATIONAL INDUSTRIAL  
TRAFFIC LEAGUE  
ENDORSED**

Endorsed with enthusiasm by The National Industrial Traffic League, Evans DF Loaders are the subject of an official report to over 1600 of the nation's top traffic managers. In its official report the N.I.T.L. Freight Claims & Claims Prevention Committee states: "Your Committee is interested in the subject [the DF Loader] to the extent of its relation to the prevention of damage . . . and recommends that the Transportation Instrumentalities & Car Service Committee . . . promote this type of equipment to its utmost ability." What N.I.T.L. has recently recognized, users of DF cars have long known: The DF Loader is truly the Damage Free Loader, the Dunnage Free Loader. Shippers attest to its impressive savings in dunnage, and labor to install it; railroads acclaim its record of increasing boxcar loads by over 33%; carriers and shippers alike hail its impressive record of reducing damage to the vanishing point. You can ship bigger loads, cut loading costs, and eliminate damage with Evans DF Loaders. Consult *Evans Products Company, Railroad Loading & Equipment Division, General Offices, Plymouth, Michigan. Plants: Plymouth, Mich.; Coos Bay, Ore.; Vancouver, B. C.*



**EVANS** **LOADING AND RAILROAD EQUIPMENT**

**RETURNS REVENUE TO THE RAILS**

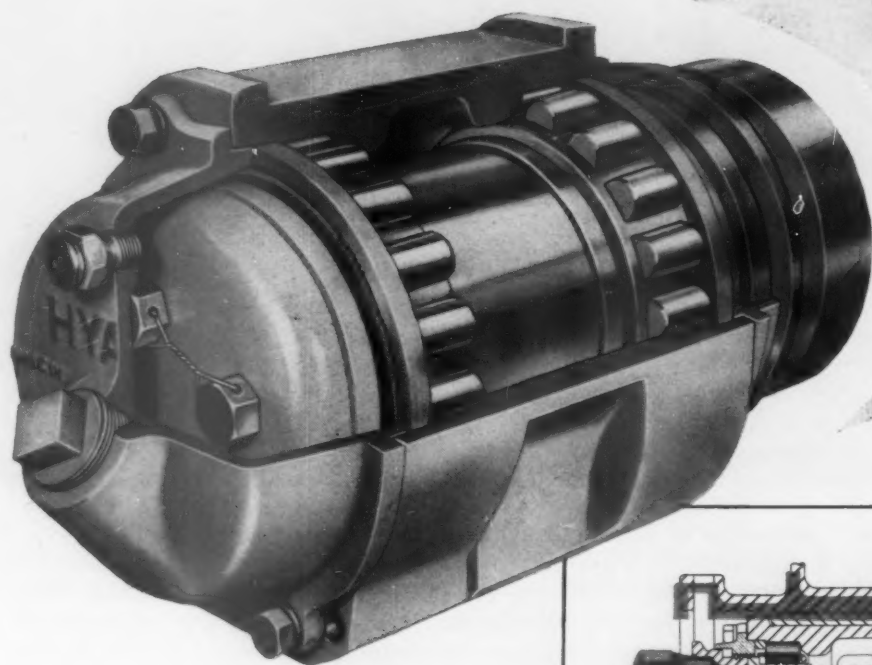


# HYATT

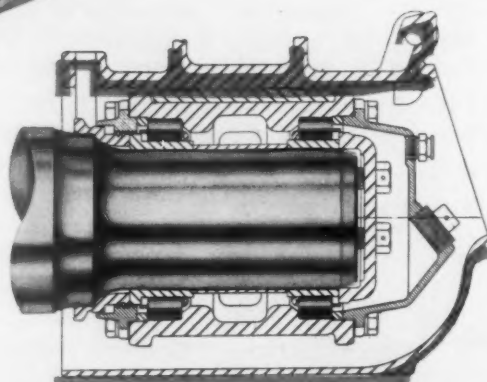
ROLLER BEARING JOURNAL BOXES

*for*

## FREIGHT CARS



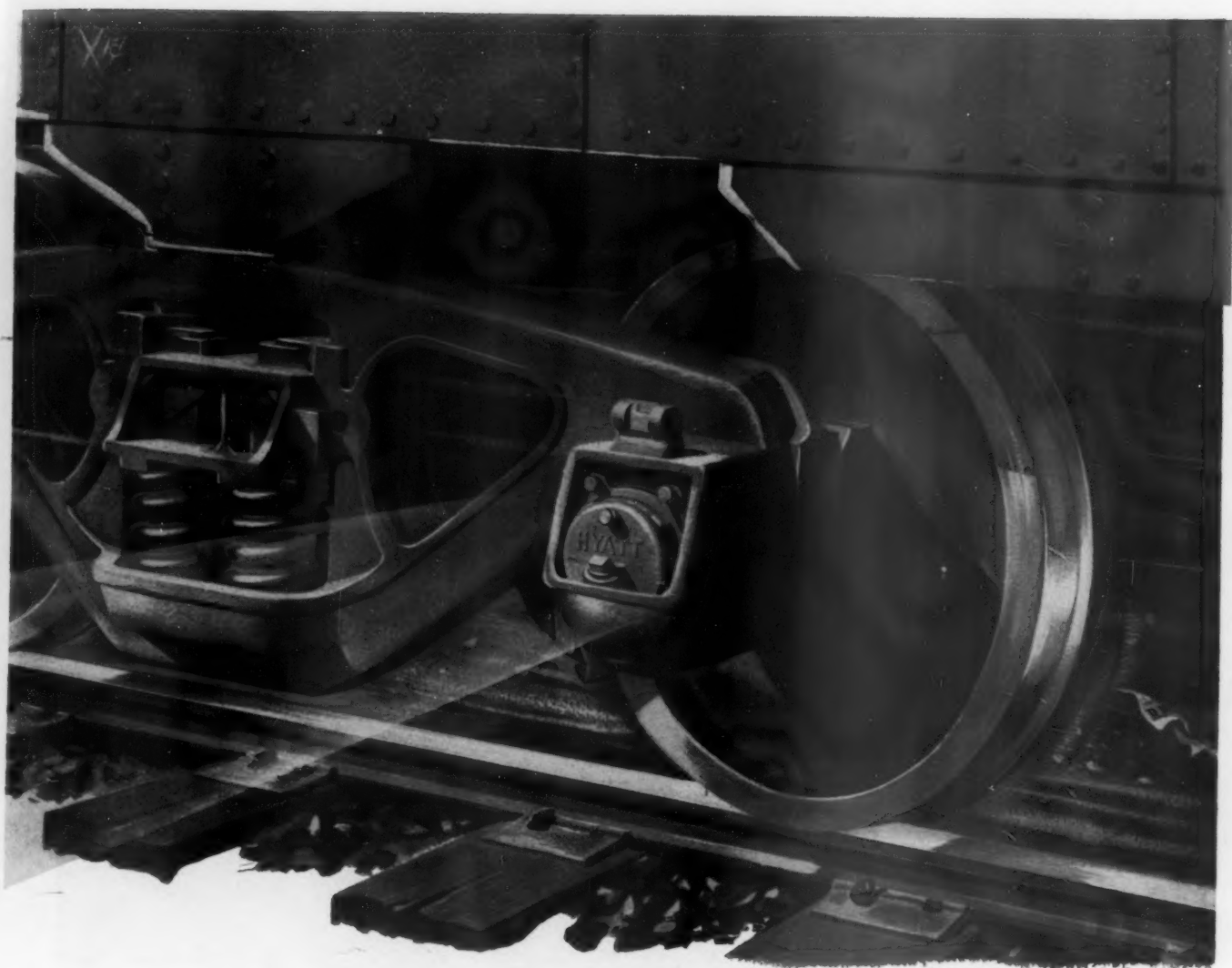
This box design is for use in side frames having integrally cast journal box housings. Also available, another design for pedestal-type side frames. Hyatt Freight Car Journal Boxes are designed for grease lubrication and will operate for long periods between inspections.



### HYATT ROLLER BEARING JOURNAL

For further information, write to Hyatt Bearings Division, General Motors Corporation, Harrison, N. J.





In freight service all railroads are footing large expenses for train delays, repairs and disappointments to shippers due to hot boxes.

As a large carrier recently pointed out, their own cars are only on their own lines 17% of the time. Despite their best efforts, they still pay huge bills because of hot boxes on their own equipment and cars received in interchange. The cure is beyond the scope of an individual railroad.

Collectively, railroads can alleviate this common problem by a common effort... the general adoption of Hyatt Roller Bearing journal boxes for freight cars.

Incorporating the principal features proven so successful in Hyatt Journal Boxes on passenger cars and diesel locomotives, now, "Hyatts for freight" not only will eliminate hot boxes, but also offer you these extra advantages:

**Free Lateral**, a unique Hyatt design advantage, allows freedom of axle movement through the bearing, thus cushioning shocks, minimizing wear on wheels and truck parts, and insuring against damage to lading.

**No press fits to break** when removing boxes for inspection.

**Reduced inventory** is possible because spare axles and wheels need only to be fitted with inner races and spacer and thrust rings.

**Straight radial rollers** of generous size provide for maximum load-carrying capacity and longer usable life.

**Simplicity of design** permits examination of all box and bearing parts with utmost freedom.

**BOXES**

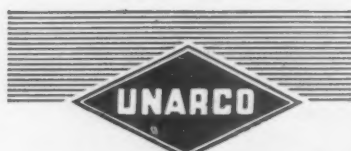
*for freight cars*



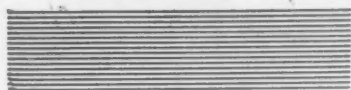
## **UNARCO WOVENSTONE®**

*Lace-on Train Pipe Insulation*

Contributing to passenger comfort on the nation's trains for more than 25 years—Wovenstone is recognized for its high insulating efficiency, rugged construction and long life. These qualities are reflected in the lower cost of delivering steam heat and hot water to the cars. The longer the train, the greater the need for Wovenstone.



**UNION ASBESTOS & RUBBER COMPANY**



332 SOUTH MICHIGAN AVENUE • CHICAGO 4, ILLINOIS





get along  
little dogie

The Chisholm Trail opened the way to cash markets for Texas longhorn cattle. Until then, they had been accumulating on the range and were practically worthless.

So are your worn out Diesel liners and crankshafts. But they needn't be! Just take the "For Scrap Only" tags off them and send them to us.

Our VANDERLOY M process restores their bearing surfaces to original dimensions. With addition of PORUS-KROME\* they'll wear as much as four times longer than they did without this protection. Yet the cost for BOTH processes is less than the price of new parts.

Think what this means! It eliminates all need to carry odd-sized parts. Best of all, it eliminates the chance of being caught by critical shortage of new replacements.

Most major Diesel users, guided by their own experience, now have original equipment processed with PORUS-KROME. It protects their investment!

You'll find it pays, too. Yes, whether you have Diesel liners and crankshafts that are new, old or discarded, VANDERLOY M and PORUS-KROME are the Chisholm Trail to more cash returns. May we prove it?

\* PORUS-KROME is a dense, hard, wear and corrosion-resistant chromium, produced by the Van der Horst Corporation of America, and which gives working surfaces an infinite number of tiny oil-retaining reservoirs for perfected lubrication.

**VAN DER HORST CORPORATION OF AMERICA • OLEAN, N. Y.**  
U. S. PATENTS 2,048,578, 2,314,604 and 2,412,698

**PORUS - KROME**

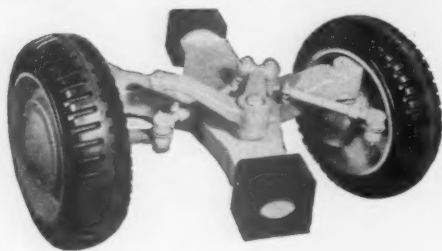
**VAN DER HORST**

*Good for the Life of your Engines*

**BAKER** is  
THE ONLY TRUCK  
THAT GIVES YOU  
THESE IMPORTANT  
ADVANTAGES!

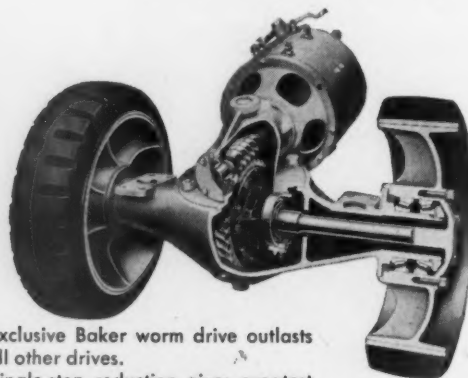


### THE SIMPLEST TRAILING AXLE FOR INDUSTRIAL TRUCKS



1. Baker patented wide angle steer provides maximum maneuverability.
2. Jumbo-size oil resistant rubber blocks absorb twisting of axle.
3. Complete accommodation to uneven roadways.
4. Effective snubbing of road shocks.
5. Constant smooth traction on drive wheels.
6. Proper steering geometry minimizes scrubbing of tires.
7. Steering connections above axle for protection from damage and maximum underclearance.
8. Thrust ball bearings and location of knuckle pivots mean easiest, shockless steering.
9. Tapered wheel bearings reduce friction.
10. Wheel removable in 5 minutes by taking off cap and one nut.
11. Trailing axle can be removed from truck in 20 minutes.

### THE MOST EFFICIENT POWER AXLE FOR INDUSTRIAL TRUCKS



1. Exclusive Baker worm drive outlasts all other drives.
2. Single-step reduction gives greatest efficiency and quiet operation.
3. Rolling contact between worm and worm wheel eliminates sliding friction.
4. Alloy-steel worm and aluminum-bronze worm wheel for strength and low friction.
5. Worm runs on radial and thrust ball bearings to protect against damage from shock loads.
6. Four-bevel-pinion differential doubles tooth contact, distributes load evenly, minimizes maintenance.
7. Efficiency not reduced by wear.
8. High efficiency under heavy loads.
9. Lowest operating cost of any drive.
10. Can be removed from truck in less than 1 hour.
11. Full floating axle shafts easily removed.

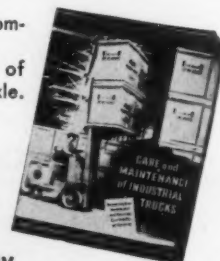
### THE STRONGEST FRAME FOR INDUSTRIAL TRUCKS

1. All-welded steel plate construction.
2. Box-type construction for greatest strength and utilization of space.
3. Integral steel plate bumper-counterweight welded to frame.
4. Weight scientifically distributed for maximum stability and cantilever effect.
5. Integral oil reservoir.
6. Designed for easy access to truck components requiring maintenance.
7. Designed for quick, easy removal of mast, power axle and trailing axle.



*Yours for the Asking!*

Just off the press . . . 16 page manual "CARE and MAINTENANCE OF INDUSTRIAL TRUCKS." Write for your copy today.



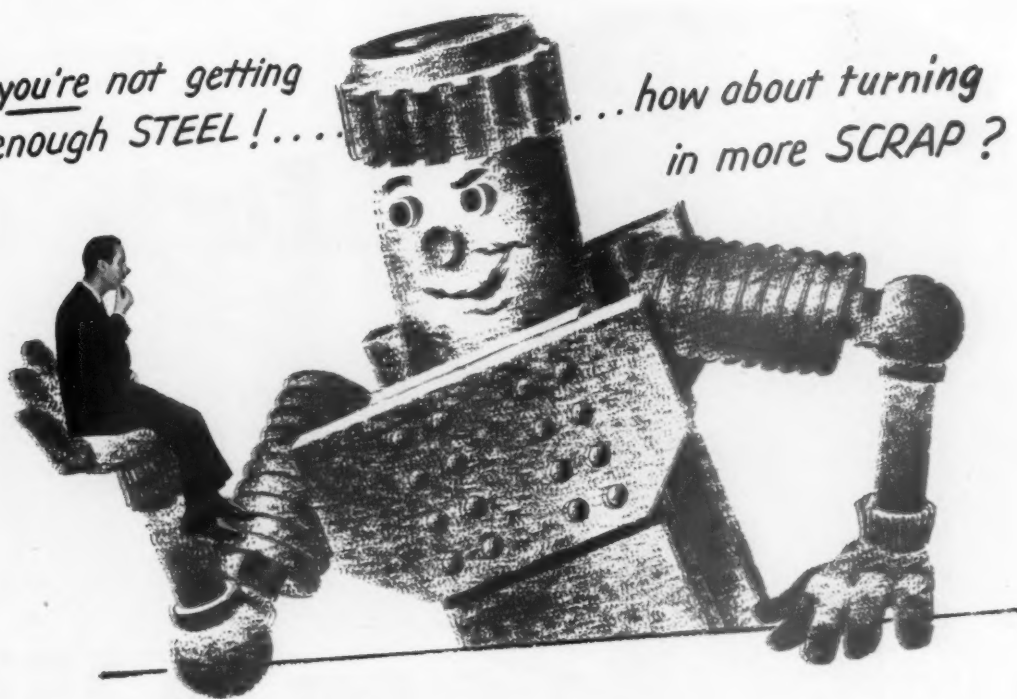
**BAKER INDUSTRIAL TRUCK DIVISION of The Baker-Raulang Company**  
1255 WEST 80th STREET, CLEVELAND 2, OHIO • In Canada: Railway and Power Engineering Corp., Ltd.

# Baker<sup>®</sup> INDUSTRIAL TRUCKS



*So you're not getting  
enough STEEL!...*

*...how about turning  
in more SCRAP?*



## There's only one quick way to get more steel!

*... get more SCRAP to the mills, at once*

**L**ET's be realistic about the scrap shortage. The need for scrap is desperate. It threatens to hamper our whole National Defense effort—and it vitally concerns *you* because it boils down to this:

Unless 100,000 tons of industrial scrap roll into the steel mills every day, steel production will drop, and there'll be *less* steel for everyone—you included.

On the other hand, if more scrap is turned in, more steel will be turned out—and the more steel that's made the more steel *you'll* get.

So—if you want more steel—do your full share in getting your scrap back to the mills. Comb through your plant, again and again. Tap every source of dormant scrap. Dig out every retired machine that

you can possibly spare and rush it to your scrap dealer. Rip out any old rails and switches that are rusting away on unused sidings—and scrap them. Scrap your antiquated dies, jigs and fixtures, your worn-out tanks and boilers that are gathering dust in some forgotten corner. Make sure that not a single pound of scrap is by-passed. Sell it—ship it. It means good money for you, more scrap for the Nation's scrap pile, and more steel for *everyone*.

• • •

Remember—the Nation's productive effort depends primarily on steel—and steel depends on SCRAP . . . *your* scrap. Turn it in—NOW.

You'll find your local scrap  
dealers listed in the yellow  
pages of the phone directory.



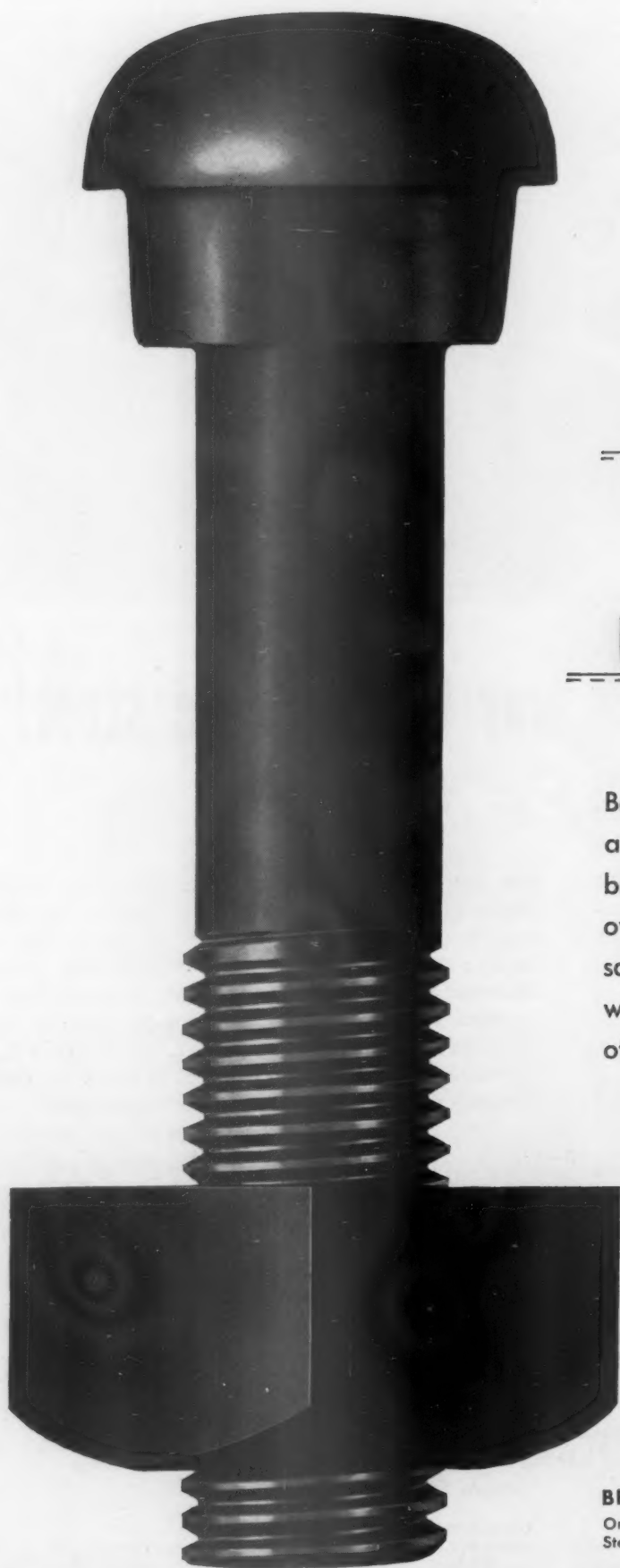
1-1902

This page would ordinarily be used to tell you about  
**U-S-S HIGH STRENGTH STEELS**

but, because without SCRAP we cannot produce steel,  
we are asking instead for your all-out help in getting  
more SCRAP to the mills.

AMERICAN STEEL & WIRE COMPANY, CLEVELAND  
COLUMBIA STEEL COMPANY, SAN FRANCISCO • NATIONAL TUBE COMPANY, PITTSBURGH  
TENNESSEE COAL, IRON & RAILROAD COMPANY, FAIRFIELD, ALA. • UNITED STATES STEEL COMPANY, PITTSBURGH  
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST  
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

**UNITED STATES STEEL**



**For**

**all rail**

**up to 155 lb**

Bethlehem Track Bolts are ideal for main- and branch-line service. They are good, sound bolts, well made. They are furnished with oval necks and rolled threads, and come with square nuts for easy tightening by power wrenches. They are made for all weights of rail up to 155 lb, to meet every need.



**BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.**  
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation

*Bethlehem supplies every type of Railroad Fastener*



**MORE THAN**

**300,000\***

**CAR SETS SPECIFIED**

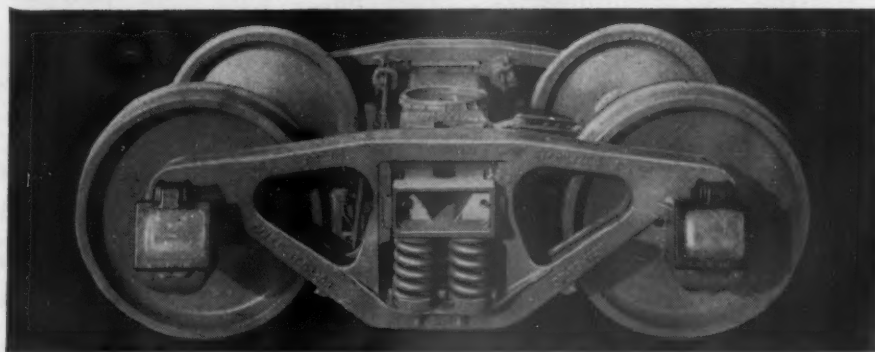
\* 600,000 Trucks

There is one outstanding reason for the steadily increasing demand for Barber Variable Friction Stabilized Trucks.

It is their demonstrated ability to control spring action satisfactorily — not only in competitive tests, but also in long sustained service tests; not only at certain speeds, but at all speeds; not only under light loads, but from empty to the allowable 10% overloads.

Furthermore, this protective action continues year after year, with no maintenance expense.

**BARBER**



**STABILIZED TRUCK**

**STANDARD**

**CAR TRUCK COMPANY**

332 SOUTH MICHIGAN AVE., CHICAGO, ILL.



The side springs increase the capacity of the Barber Truck, since they carry their share of the load.

# SOME STREAMLINING DOESN'T SHOW




Nor all the streamlining done by America's railroads in recent years shows up in powerful Diesels and sleek new cars. Many of the Nation's roads have streamlined their *communications* with new or modernized Teletype Systems.

A list of some of the ways Teletype is improving the car handling efficiency on these roads appears to the right. If any of these records or reports is a problem to you, you will find that an up-to-date Teletype System will help you solve it.

- Consist Reports
- Wheel Reports
- Switch Lists
- Space Reservation Orders & Confirmations
- Diversion Orders and Reports
- Passing Reports
- Block and Manifest Reports
- Set-Out and Pick-Up Reports
- Cut-Out Reports
- Interchange Reports
- Miscellaneous Operating Reports





In a hurry  for smooth-riding freight cars?

Get them now!

INSTALL

A S F

You can enjoy the advantages and savings of longer spring travel *now*, by installing the A.S.F. Ride-Control Package in your present rolling stock.

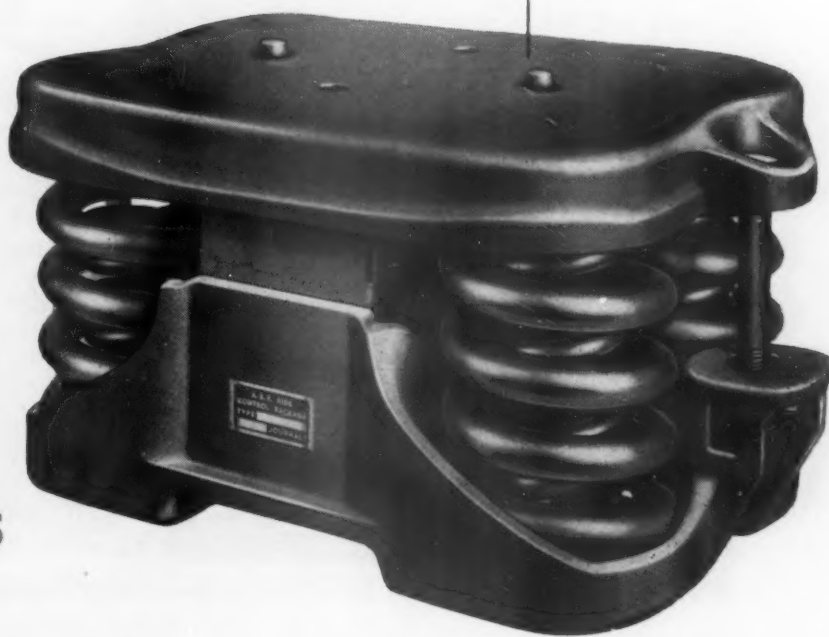
The Ride-Control Package is a complete spring group with built-in 3-way friction control (the famous A.S.F. Ride-Control principle). The unit comes completely assembled, is installed as a unit in place of the present spring group.

This Package gives  $2\frac{1}{2}$  to 3 inches of controlled spring travel, in place of the AAR-standard  $1\frac{9}{16}$  to  $1\frac{3}{8}$  inches. Separate Ride-Control springs provide constant pressure on hardened friction surfaces to control movement in all three directions.

Cost is low—about \$160 per car set—but it means big savings. Ride-Control helps protect lading and cut claims. It helps protect rolling stock and cut repair costs. It helps protect roadbed and cut track maintenance. You can't lose! And you can have it now!

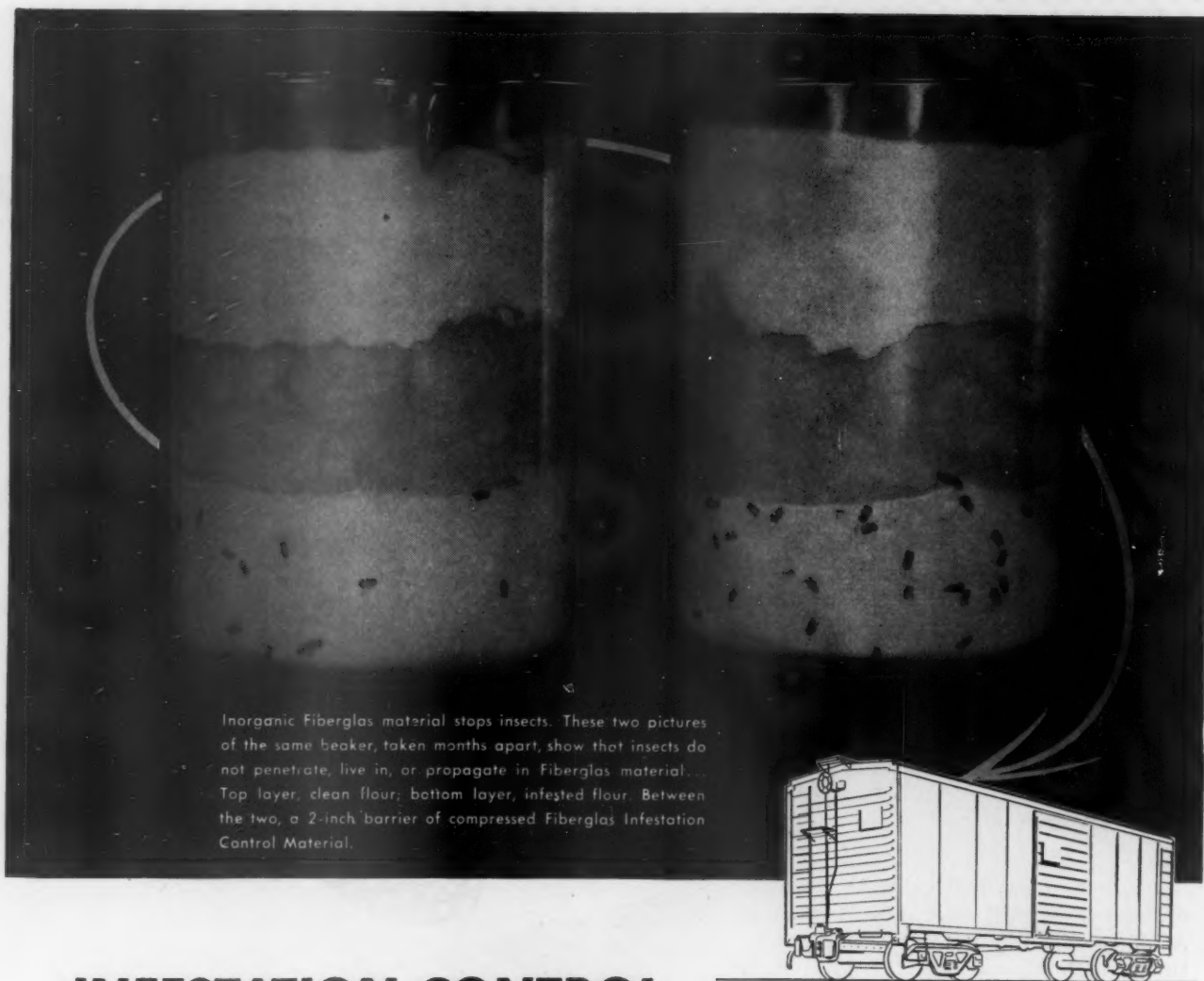
Talk it over with your A.S.F. representative and ask him for all the details; or write American Steel Foundries, 400 North Michigan Ave., Chicago 11, Illinois.

RIDE-CONTROL<sup>®</sup> PACKAGES



**AMERICAN STEEL FOUNDRIES**

*mint mark of*  *fine products*



Inorganic Fiberglas material stops insects. These two pictures of the same beaker, taken months apart, show that insects do not penetrate, live in, or propagate in Fiberglas material. Top layer, clean flour; bottom layer, infested flour. Between the two, a 2-inch barrier of compressed Fiberglas Infestation Control Material.

## INFESTATION CONTROL...

### from Beaker to Box Car

It is now possible to treat a boxcar so that it will not harbor insects or larvae behind the linings—so that it cannot contribute to infestation of grain or milled products. Now, after several years of “beaker to boxcar” testing—several years of laboratory test, field trial and proof—the Bishop System has emerged . . . the permanent, simple, low-cost answer.

The ends of boxcars, with their deep corrugations, as well as the area back of the liners of the car sides, are the major sources of infestation. Here dusts of every conceivable kind collect. Here, in this dust, insects breed. Even cars with so-called self-cleaning

sides accumulate these same dusts as well and should be Bishop protected.

The Bishop System controls the infestation problem because it specifies installation of this Fiberglas\* material in the entire area and space behind the liners. This prevents infiltration, and filling of this space with dust.

Thus through relatively simple car construction this very troublesome problem is controlled.

For information, contact GUSTIN-BACON MFG. Co., Kansas City 7, Mo. Or Transportation Division, Dept. 21-L, OWENS-CORNING FIBERGLAS CORPORATION, Toledo 1, Ohio.

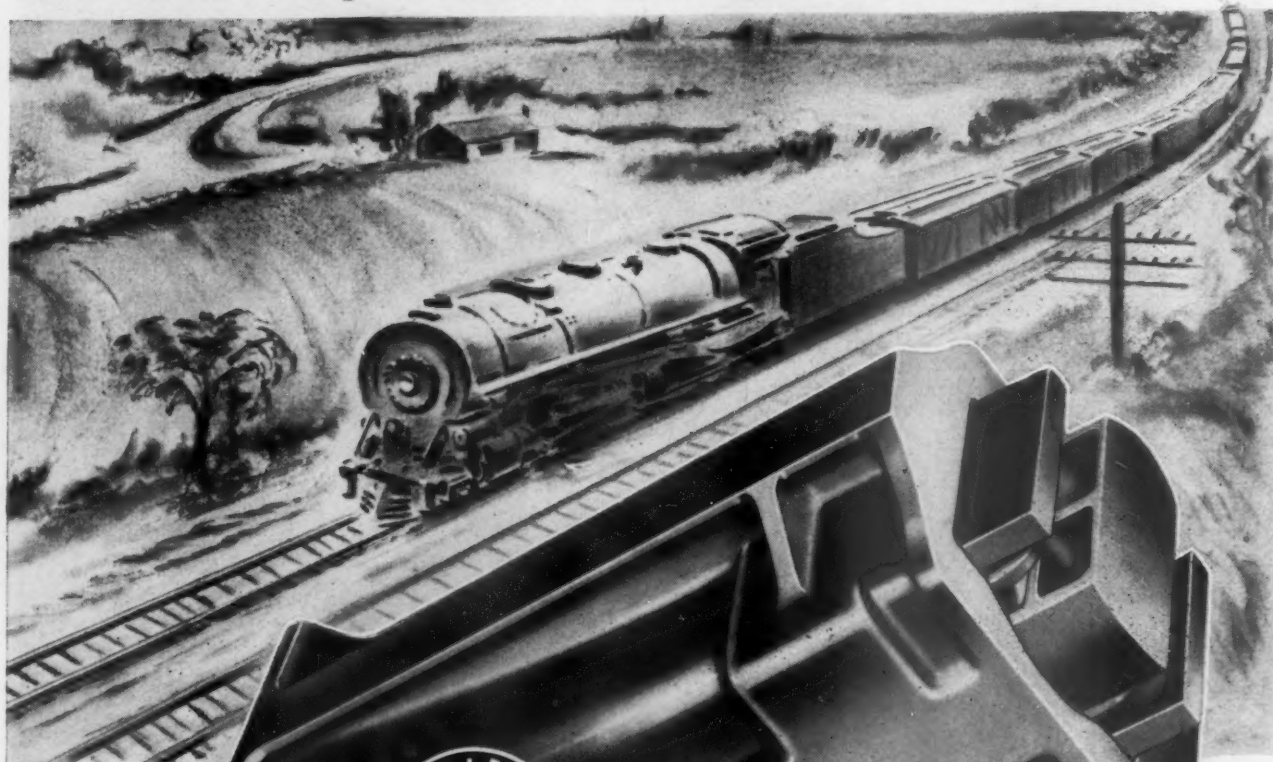


... IN YOUR LIFE ... FOR GOOD!

\*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) of the Owens-Corning Fiberglas Corporation for a variety of products made of or with fibers of glass.



## Continuous Improvement for over half a century



WESTINGHOUSE  
FRICTION  
DRAFT GEAR



CARDWELL FRICTION  
BOLSTER SPRING FOR  
A.A.R. AND LONG  
TRAVEL SPRINGS

Many important improvements in Westinghouse Friction Draft Gears have been made because of the continuous Research, Laboratory and Service Tests carried on for more than 50 years!

Result—longer life and lower maintenance cost for cars—and for Draft Gears too.

1925  
1926  
1927  
1928  
1929  
1930  
1931  
1932  
1933  
1934  
1935  
1936  
1937  
1938  
1939  
1940  
1941  
1942  
1943  
1944  
1945  
1946  
1947  
1948  
1949  
1950  
**1951**

*More than 98% of the Cars in Freight Carrying Service are A.A.R. Construction, and Over 96% have Friction Draft Gears.*

*The shock-absorbing capacity of the A.A.R. Friction Draft Gears in service is sufficient to protect the 4% of cars not equipped with Friction Draft Gears.*

**Cardwell Westinghouse Co., Chicago**  
**Canadian Cardwell Co., Ltd., Montreal**



## Non-Spin Wheel **HAND BRAKE**

*A. A. R. Certified*

New safety for trainmen and rolling stock is combined with easy, one-hand car control in this latest Equipco achievement.

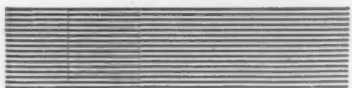
No release lever—no explosive release. Won't "dump off" accidentally. Can't jam. Efficient, fast-acting spur gear construction. Write for the injury-preventing, money-saving facts about this better Type 3750-A hand brake.

**Safe! Sure!**  
nothing to  
touch but  
the wheel



*Equipco Hand Brake Department*

**UNION ASBESTOS & RUBBER COMPANY**



332 SOUTH MICHIGAN AVENUE • CHICAGO 4, ILLINOIS





**ROAD-PROVED**

by millions of miles of service  
on over 20 leading lines . . .

**SCULLIN**



**TRUCKS**

THE SMOOTHEST TRAFFIC-BUILDERS BETWEEN LCL AND YOUR RAILS

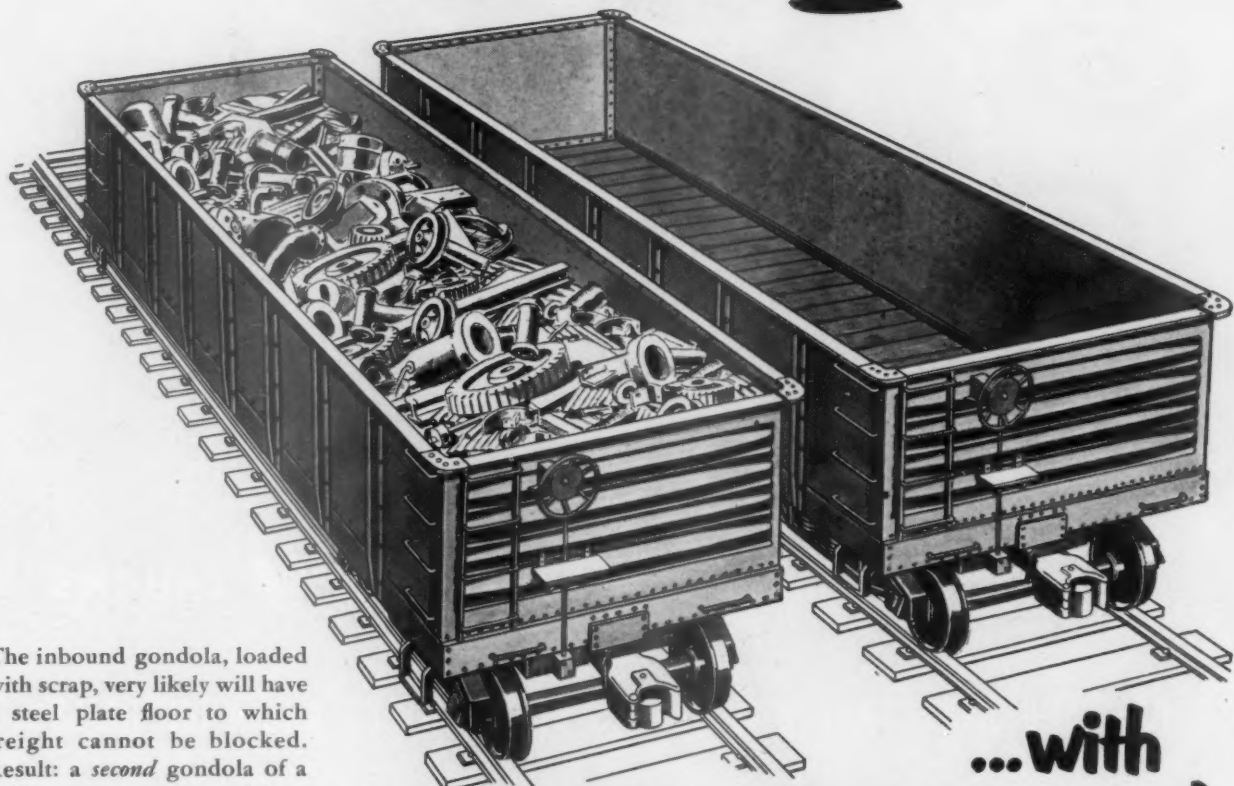


NEW YORK  
CHICAGO  
BALTIMORE  
RICHMOND, VA.

**SCULLIN STEEL CO.**

SAINT LOUIS 10, MISSOURI

# Now...make every gondola do the work of Two



The inbound gondola, loaded with scrap, very likely will have a steel plate floor to which freight cannot be blocked. Result: a *second* gondola of a different type brought in empty may be needed to carry an outbound load.

## ...with Nailable Steel Flooring!

Today's problem is clear: Moving *more* freight with *less* cars . . . and moving it *faster*. And railroad executives on 45 major roads have already found an answer that works . . . N-S-F.

Gondolas with NAILABLE STEEL FLOORING, serve any need. They take *bulk*, *blocked* or *floating* loads. The same cars that deliver *one* kind of load can take away *another* kind of load. There's less shuttling of cars . . . less "deadheading" from job to job . . . and cars spend less time empty in the yards.

And this is but one of the ways NAILABLE STEEL FLOORING keeps cars working and earning. With the sturdiness of steel, car floors need little care through the years, are "in service" all the time!

PATENTS PENDING



51-SF-12

NAILABLE STEEL FLOORS are formed of rigid channels made of N-A-X HIGH-TENSILE steel, welded in place and separated by spacers to form nailing grooves. Stiff plastic composition is gunned into the grooves to form a tight seal.

**GREAT LAKES STEEL CORPORATION**

Steel Floor Division • Ecorse, Detroit 29, Michigan



**NATIONAL STEEL CORPORATION**





The Protection this  
Plastic Goggle Provides  
**IS AS GOOD AS ITS LOOKS!**



Here's the goggle for the very particular worker to whom appearance is important as well as safety. It is light enough to be worn all day without any discomfort—either directly over the eyes or over spectacles. We call it the AO 607 goggle and recommend it for frontal protection against foreign particles in machine and hand tool work, chemical and physical lab work, bottling operations, spot welding and the lighter types of grinding, chipping and riveting. Your nearest AO Safety Products Representative can supply you.



SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES



## Safety Goggle



### QUICK FACTS

- Plastic Frame is lightweight and durable. High-set endpieces for unobstructed vision. Face form for extra protection and good looks. No metal touches skin.
- Single Acetate Lens is large, shatter-resistant and quickly replaceable. "Seeability" is excellent due to conformance to highest optical standards and the wide-angle vision.
- Nose Pads and binding have broad bearing surfaces for utmost comfort and with the binding are permanently attached to the lens.
- Comfort Cable Temples adjust easily, hold goggle snugly without pressure. Plastic enclosure of temples resists corrosion.
- Handsome Leatherette Case supplied with each goggle.
- Available in clear and green lenses.



## America needs your daily pound of scrap

If every man, woman and child in America provided one pound of scrap each day, they would supply just about enough to produce the 105 million tons of new steel that the industry hopes to make in 1951.

Like yeast in breadmaking, scrap is essential to steelmaking. Scrap speeds up the process because scrap is already-refined steel. Every ton of scrap used replaces one ton of pig iron. Thus scrap also saves raw materials, because each ton of pig iron represents two tons of iron ore, one ton of coal and half a ton of limestone.

The continuing co-operation of every reader of this page is urgently requested to overcome a scrap shortage daily growing more critical. Turn in--by selling your scrap to regular scrap-gathering channels--any and all broken, worn-out or obsolete things made of iron and steel--machines, tools, pipe, boilers, structural parts and other "junk" you'll probably never use again.

Do your part in the campaign to help meet America's need for more steel. Enlist now for the duration. Remember that the scrap you furnish may help you get more steel.



### The Youngstown Sheet and Tube Company

General Offices--Youngstown 1, Ohio

Export Offices--500 Fifth Avenue, New York

MANUFACTURERS OF CARBON ALLOY AND YOLOY STEELS

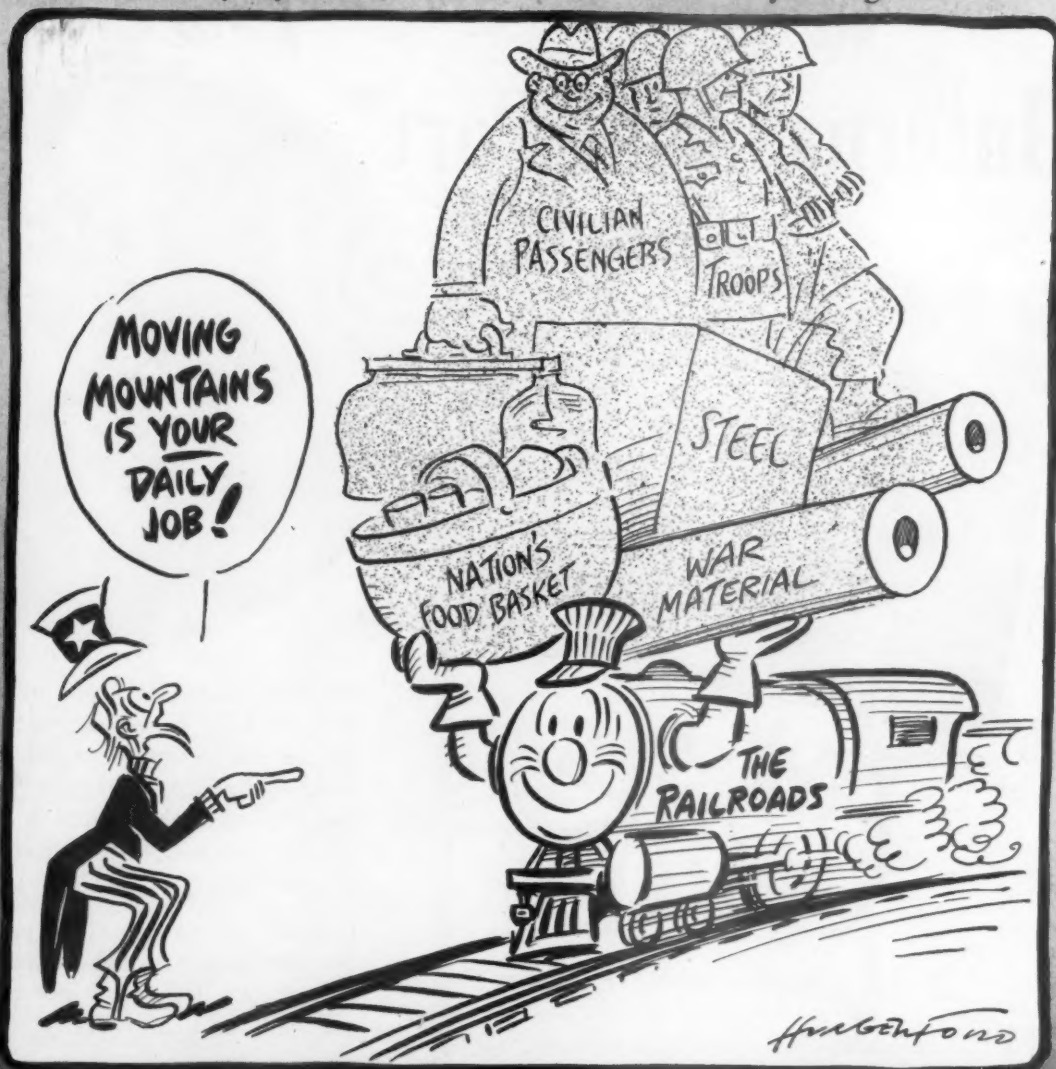
The steel industry is using all its resources to produce more steel, but it needs your help and needs it now. Turn in your scrap, through your regular sources, at the earliest possible moment.



Everyday Miracle

—By Hungerford

We will be glad to send you enlarged copies of this Hungerford cartoon (without advertising copy) for posting on your office and shop bulletin boards, or a cut for your company magazine, at cost.



Watch for other railroad cartoons by Mr. Hungerford

**E**

# Edgewater Steel Company

PITTSBURGH, PA.

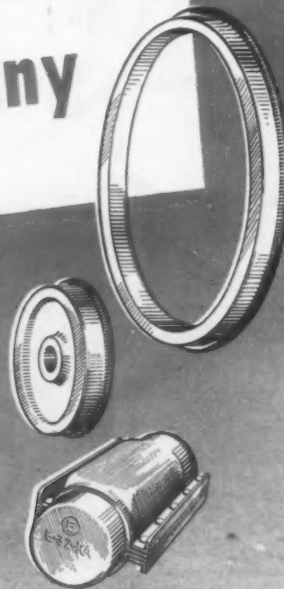
Serving America's Railroads with . . .

**ROLLED STEEL WHEELS**

for Freight Cars, Passenger Cars, Diesel Locomotives

**ROLLED STEEL TIRES**

**DRAFT GEARS**



# We Think the World of the "International Port"



**NEW ORLEANS**—one of five Gulf ports on KCS Lines—is a natural gateway to the rest of the world. And it is natural that this vital gateway should be linked with the "Heart of America" by the quickest, most direct route—Kansas City Southern Lines.

Unique among American cities, New Orleans retains its rich historical background while leaping forward commercially and industrially.

New Orleans ranks as America's second largest port in dollar-volume of cargo handled. It is served by eighty or more steamship lines, with 3,000 ships regularly arriving and departing each year.

And contributing to the port's teeming world trade is our fast, dieselized service—*shortest, quickest rail link with Mid-America!*

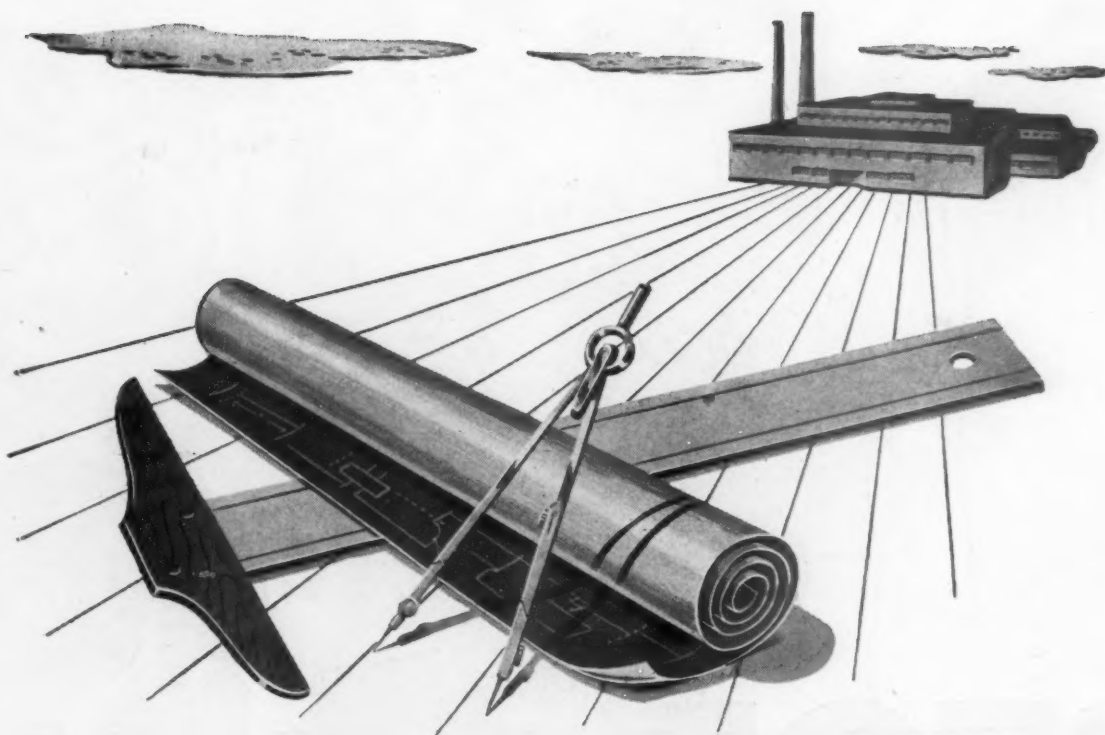
*J. M. Scott*

Vice President—Traffic

## Representing KCS LINES at NEW ORLEANS

W. D. BURCH . . . Executive General Agent  
S. O. GRUBBS, Jr. . . Asst. Exec. Gen. Agent  
L. J. ROSENTRÉTER . . . General Agent  
T. E. FITZMORRIS . . . Asst. Gen. Pass. Agent  
G. W. DEAN . . . . . Local Agent





# *A Site in Sight!*

If you are looking for a plant location, we can save you valuable time and money.

Over the years, we have made intensive study of the Seaboard Southeast and have catalogued for ready reference specific data on outstanding locations for industry.

Dependable information on factory sites, labor supply, water for processing, transportation, power and other pertinent factors is yours for the asking.

We have a site *In Sight* for you. Our services will cost you nothing, and strict confidence is our rule.



Address: Warren T. White, Assistant Vice President,  
Seaboard Air Line Railroad,  
Norfolk 10, Va.



THROUGH THE HEART OF THE SOUTH

COMPTON FMTCLTLE RAILROAD COMPANY

*Sign*

*Reduce speed -  
bridge under  
corrosion*

# STOP RUST

## RUST-OLEUM

Always an operating hazard—and a constant drain on the maintenance budget—rust is a doubly dangerous enemy now when it is difficult to obtain metal replacements.

RUST-OLEUM stops rust effectively—is the practical answer to many railroad rust problems. Its tough, pliable, rust-resisting film gives excellent protection to bridges, rolling stock, metal buildings, signal equipment, tanks and many other rustable metal surfaces.

### CUT YOUR MAINTENANCE COSTS

RUST-OLEUM cuts maintenance costs in two ways. (1) It prevents rust on new rustable metal surfaces so that costly replacements can be deferred longer than previously could be expected. (2) Because RUST-OLEUM can be applied even over metal already rusted—usually without sandblasting or the use of chemical rust removers—it saves many, many man hours. Write for your copy of the NEW RUST-OLEUM Railroad Catalog.

**RUST-OLEUM CORPORATION**  
2584 Oakton Street, Evanston, Illinois

*Write*

**RUST-OLEUM**  
*Rust Preventive*  
R-769  
Damp-Proof Red Primer (SO)

"Rigid economy, Mon!"

Available in colors, and aluminum



## Equipment—for the road ahead

Seldom have American railroads been faced with a greater or more important job. More and more goods must be hauled as our civilian economy and military program expand. Larger fleets will be necessary. Obsolete and worn out equipment must be replaced.

Pressed Steel Car Company manufactures standard and custom built box cars, refrigerator cars, gondola and hopper cars famous for efficient performance on every major road in America.

We suggest you bring your requirements to us and make sure you are equipped and prepared for the road ahead.

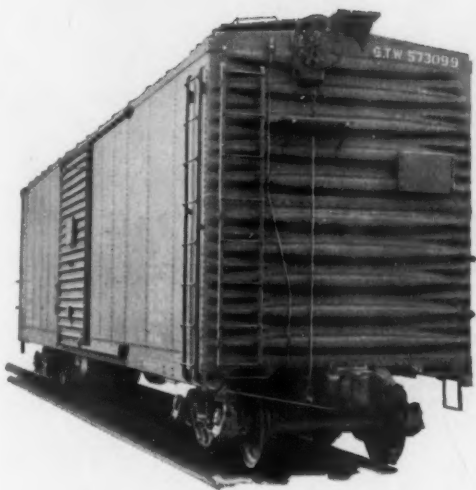


### PRESSED STEEL CAR COMPANY, Inc.

6 No. Michigan Ave.  
Chicago, Ill.



Mount Vernon, Ill.  
Plant



## Unless the Lord build the house...

Twice in one lifetime we have tried to  
build peace, both times we have failed.

And both times God was kept from  
the peace table—the first time be-  
cause the world was “too busy”;  
the second time because God was  
barred by Communism. This, despite  
the Bible warning that “Unless the  
Lord build the house, they labor  
in vain that build it.”

A return to religion and to the indi-  
vidual freedoms of our founding  
fathers will make America  
strong spiritually and morally.

Let's reaffirm our faith in God  
and our faith in the power of prayer.  
Then our labors will not be in vain.

Let's all help by truly practicing  
day by day the principles of religion.



**TEXAS AND PACIFIC RAILWAY**

*Yours is the power to make us strong spiritually, morally,  
politically and economically. Write today for a reprint of  
the article, "The Four Pillars of Freedom—Work, Save,  
Vote and Pray." Mail your request to: J. B. Shores, Pub-  
lic Relations Department, Texas and Pacific Railway,  
Dallas, Texas. No charge, of course!*

★ This is one of a series of advertisements paid for by the Texas  
and Pacific Railway Company and sponsored in the public  
interest. Reprints of these advertisements are available from  
the Texas and Pacific Railway Company, Dallas, Texas.





**MEN GROW CARELESS.  
SAFETY RULES ARE FOR  
THEIR PROTECTION.**

**IT IS A RULE:** Standing under or near any equipment or heavy material being lifted or pulled by rope, chain or cable is prohibited.



because  
**MEN GROW  
CARELESS**

MORE THAN

**1  
2**

OF ALL HUMP YARD  
IMPACTS  
ENDANGER BOTH  
CARS AND LADING.

(Railway Age, Nov. 4, 1950)

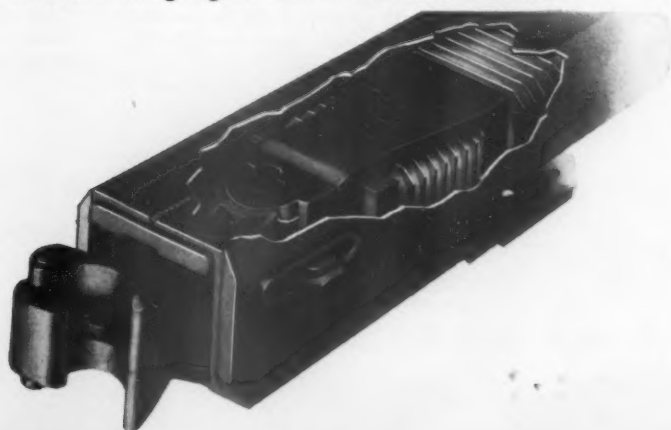
For Car and Lading Safety  
**MAKE IT A RULE**  
to Equip All Freight Cars  
with . . .

**WAUGHMAT**  
*Twin Cushions*

TRADE MARK REGISTERED

WAUGH EQUIPMENT COMPANY, New York Chicago St. Louis  
Canadian Waugh Equipment Company: Montreal

Railroad men themselves attribute 70% of all damage claims to "rough handling", which is just another name for excessive humpyard impacts. Providing an extraordinary degree of lading protection, Waughmat Twin Cushions will protect cars and lading against most of these shocks.



# Big Lift

for the M. & St. L.

... and its *Fast Freight Service*



**A** MIGHTY DERRICK for handling heavy pieces of freight has just been added to the modern mechanical equipment of

#### The MINNEAPOLIS & ST. LOUIS Railway

This all-steel derrick is now at work at the big M. & St. L. freight depot in the heart of Industrial Minneapolis, easily accessible to hundreds of Shippers. Alongside is a large concrete platform, with a ramp, built for the derrick to use in fast loading and unloading of freight cars and trucks.

The huge derrick has a 50-foot swing boom, operated by a two-drum hoist.

It can lift 10 tons at its extension limit of 48 feet and 16 tons at 38 feet or less. The electric hoist is operated from a glass-enclosed house, which is heated for winter use.

#### Does Big Job Faster

The derrick lifts and places bulky freight, such as crated and uncrated machines, tanks, boilers and heavy boxes. It does this work far faster than is possible by any other method.


Installation of the derrick marks an important step in constant improvement of M. & St. L. service to Shippers and Receivers of freight in Minneapolis and the Great Midwest.

## The MINNEAPOLIS & ST. LOUIS Railway

General Offices: 111 East Franklin Avenue, Minneapolis 4, Minn.







# Many types of freight cars ...built well

BY

## Pullman-Standard

It takes all sorts of freight cars to move the products of America's factories, fields, mines, and forests. And it takes many kinds of "know-how" to build these cars efficiently and economically, for utmost dependability in service.

Today, Pullman-Standard's versatile shops are helping to relieve car shortages in numerous classifications. Not only boxcars, but hopper cars, gondolas, flat cars, ore cars, and various specialized types are moving along the Pullman-Standard production tracks.

Some of these types are pictured on the following pages—"late models," built in 1950 or 1951. And all are engineered to confirm Pullman-Standard leadership in *contract carbuilding* for the railroads of America.

**NEXT PAGE, PLEASE**

#### FOR SANTA FE

Pullman-Standard builds cars that can "take it." With welded underframe and floor, this 95-ton husky will stand the gaff.



*MANY TYPES*

# Pullman-

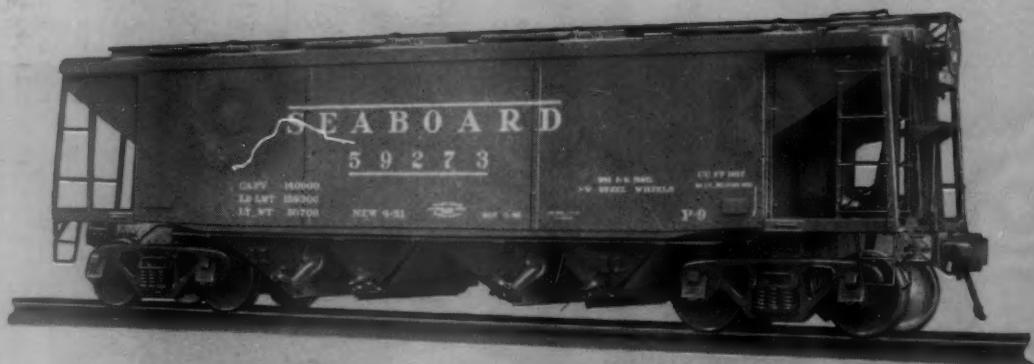


#### FOR SOUTHERN RAILWAY

All-steel 70-ton covered hopper cars for carrying cement. Capacity: 1,958 cu. ft.

#### FOR SEABOARD

This 70-ton covered hopper car was built in 1951 . . . for hauling phosphate. Up-to-date specialized construction for specialized service!







**FOR DULUTH, MISSABE & IRON RANGE**

For the rugged duty of moving vital iron ore ... ore cars for the D. M. & L., ruggedly built by Pullman-Standard.

# Standard

**BUILT WELL**

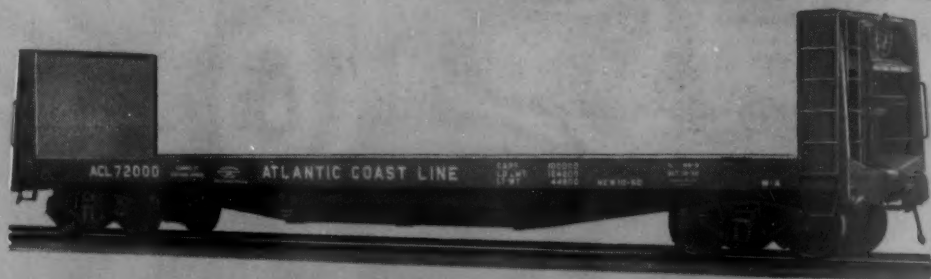


**FOR LOUISVILLE & NASHVILLE**

The L. & N. and Pullman-Standard have worked hand in hand in perfecting all-welded hopper cars. L. & N. orders for this type now total 5000.

**FOR PENNSYLVANIA**

A high-side gondola with drop ends. This 70-ton all-steel freighter embodies advanced structural details.



**FOR ATLANTIC COAST LINE**

Features of this 50-ton all-steel pulpwood car, "New 10-50," are its 1/4-inch plate floor and built-up end racks.

**NEXT PAGE, PLEASE**



# for boxcar leadership ... the PS-1

*Standardized* boxcar design, as pioneered and developed by Pullman-Standard, is exemplified by the PS-1 . . . a *quality* boxcar, *efficiently* produced.

Since the first PS-1 was delivered, in June, 1947, more than 35,000 of these sturdy, dependable cars have rolled into service and 13,000 more are on order. And assembly-line production methods have kept costs *down* while sending output *up*.

Railroads that have not yet bought PS-1's should investigate a car built to go beyond their own exacting specifications.

## Pullman - Standard

CAR MANUFACTURING COMPANY

CHICAGO • NEW YORK • CLEVELAND • WASHINGTON, D. C. • PITTSBURGH  
BIRMINGHAM • SAN FRANCISCO



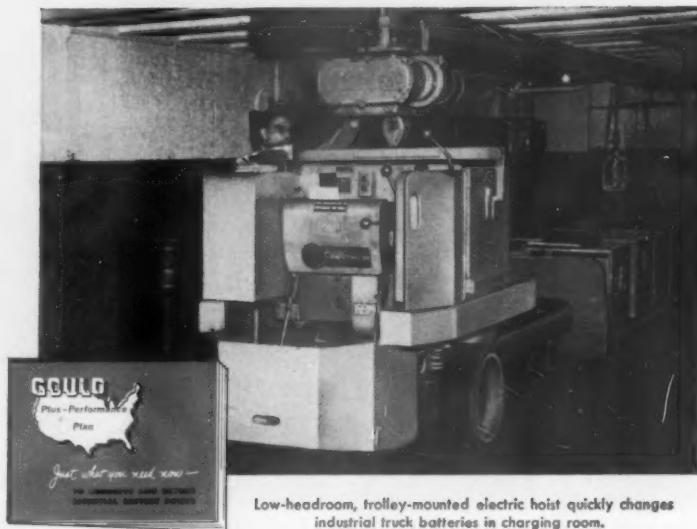
# GOULD

**Plus-Performance  
Plan**

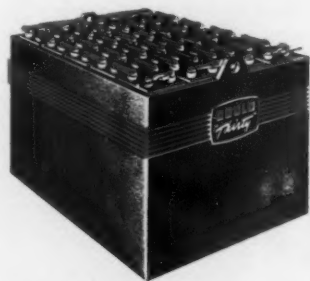
## ... SHOWS YOU WAYS TO **HANDLE** **BATTERIES IN YOUR PLANT**

Proper planning of the battery charging room is vital to greatest battery efficiency and the maintenance of high volume production at lowest cost. That's why the GOULD PLUS-PERFORMANCE PLAN contains extensive information on the charging and handling of batteries. This material, together with manuals, articles, specifications, bulletins, record cards, charts and graphs covering every phase of battery care, is yours for the asking.

With the GOULD PLUS-PERFORMANCE PLAN, you have at your fingertips a complete file of technical information on how to select, charge and handle, maintain and determine the condition of your batteries. Use it and battery service can be increased as much as 50%. Send today for the booklet shown at the right.



Low-headroom, trolley-mounted electric hoist quickly changes industrial truck batteries in charging room.



Gould "Thirty" with "Z" Plates—  
America's Finest  
Industrial Truck Battery

### TRAVELLING HOISTS SPEED BATTERY CHANGES, INCREASE EFFICIENCY, CUT ACCIDENTS

A well planned centralized or decentralized battery charging system with cranes, hoists, battery racks, rollers, etc., located to expedite handling operations is essential to maximum battery service and plant operating efficiency. The illustration above shows such an installation in a Connecticut steel plant. It is unique in that it was fitted into a small, low alcove 15 feet wide, 25 feet long and only 8 feet high. In this space are seven charging units, two transformers, two spare bat-

teries, a rack for simultaneously charging seven 15-cell batteries, space for charging four 6-cell batteries and equipment for lifting, watering and testing. To save headroom, a special pickup attachment is secured directly to the hoist pulley housing. This layout eliminates manual handling operations, simplifies battery maintenance and results in greatly added battery life. Details and other handling suggestions are contained in GOULD PLUS-PERFORMANCE PLAN material.

# GOULD

## STORAGE BATTERIES

GOULD-NATIONAL BATTERIES, INC., TRENTON 7, NEW JERSEY

Always Use Gould-National Automobile and Truck Batteries

# Confident of getting many extra years C & O standardizes on High Strength Steel



SIDES OF U-S-S COR-TEN are being riveted to cross ridge gusset as the car nears the end of the erection track. A combination of welded and riveted construction and a smooth interior without seams or ledges, are special features of the design of these hopper cars.



5,500 OF THESE 70-ton all-steel hopper cars are being built for the Chesapeake & Ohio Railway at the Huntington, W. Va., plant of the American Car & Foundry Co. Cars have a light weight of 52,100 pounds. High Strength Steel—mainly U-S-S COR-TEN—is used for all body parts in contact with the loading.

THIS CONSTRUCTION VIEW shows the end and intermediate floors, hopper chutes, doors, longitudinal hoods, cross ridge and cross ridge gussets, all of high strength, corrosion-resisting U-S-S COR-TEN.

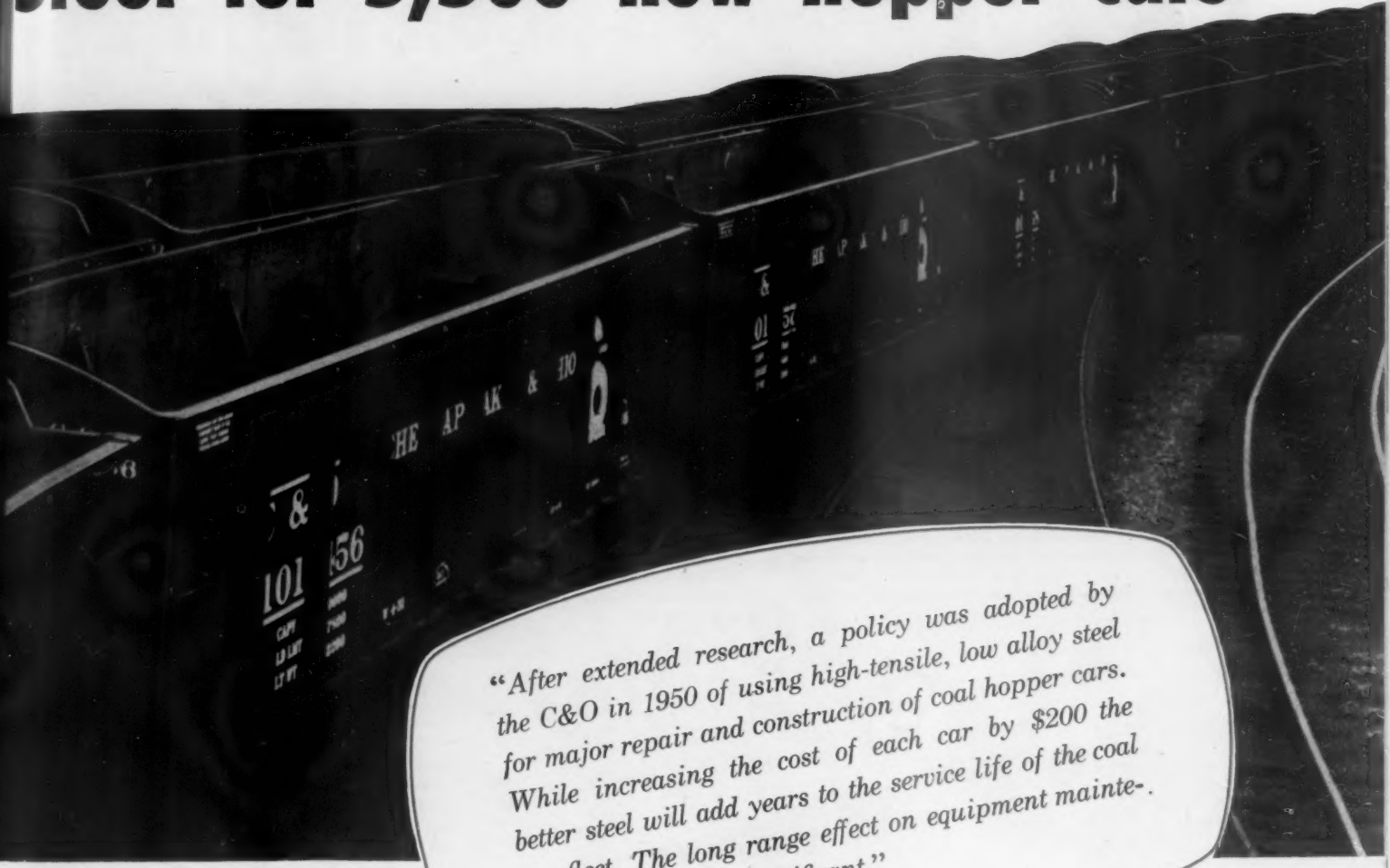
Where U-S-S COR-TEN is used in  
C & O's 70-ton hopper cars

MATERIAL	THICKNESS (in.)
Sides.....	1/4
Ends.....	1/4
End floors.....	3/16
Intermediate floors.....	11/32
Hopper chutes.....	3/8
Longitudinal hoods.....	3/8
Doors.....	11/32
Cross ridge.....	3/8
Cross ridge gussets.....	3/8





# years of service before major repairs Steel for 5,500 new hopper cars



"After extended research, a policy was adopted by the C&O in 1950 of using high-tensile, low alloy steel for major repair and construction of coal hopper cars. While increasing the cost of each car by \$200 the better steel will add years to the service life of the coal car fleet. The long range effect on equipment maintenance cost will be significant."

● The above statement, taken from the 1950 Annual Report of the Chesapeake & Ohio Railway, tells exactly why this forward-looking railroad is using High Strength Steel in 13,500 hopper cars and explains what tangible, monetary benefits are expected from its application.

We quote it as a powerful testimonial for the use of High Strength Steels in hopper car construction.

U-S-S COR-TEN's established record of superior performance in other C & O hopper cars was the primary consideration in its selection for use in new and rebuilt equipment.

Already engaged in a program of rebuilding 8,000 hopper cars with High Strength Steels, the C & O is presently taking delivery on an order of 5,500 new 70-ton hopper cars in which all materials in contact with the lading and certain critical structural sections are High Strength Steel.

By taking advantage of the high corrosion resistance of U-S-S COR-TEN—used here in heavy thicknesses—and by

eliminating design details that accelerate local deterioration, C & O officials confidently expect many extra years of service before major repairs.

In the past 16 years, U-S-S COR-TEN has conclusively demonstrated its ability to add greater durability and strength to all types of freight equipment. Today, when reduction of maintenance costs is of major concern, its advantages are more important than ever.

AMERICAN STEEL & WIRE COMPANY, CLEVELAND • COLUMBIA STEEL COMPANY, SAN FRANCISCO  
NATIONAL TUBE COMPANY, PITTSBURGH • TENNESSEE COAL, IRON & RAILROAD COMPANY, FAIRFIELD, ALA. • UNITED STATES STEEL COMPANY, PITTSBURGH  
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST • UNITED STATES STEEL EXPORT COMPANY, NEW YORK

8-1624



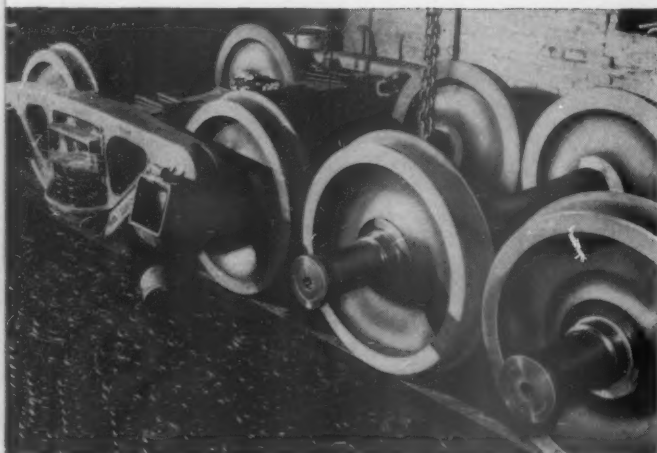
## U-S-S HIGH STRENGTH STEELS

U-S-S COR-TEN U-S-S MAN-TEN U-S-S TRI-TEN

UNITED STATES STEEL

# *Determined to match longer car life*

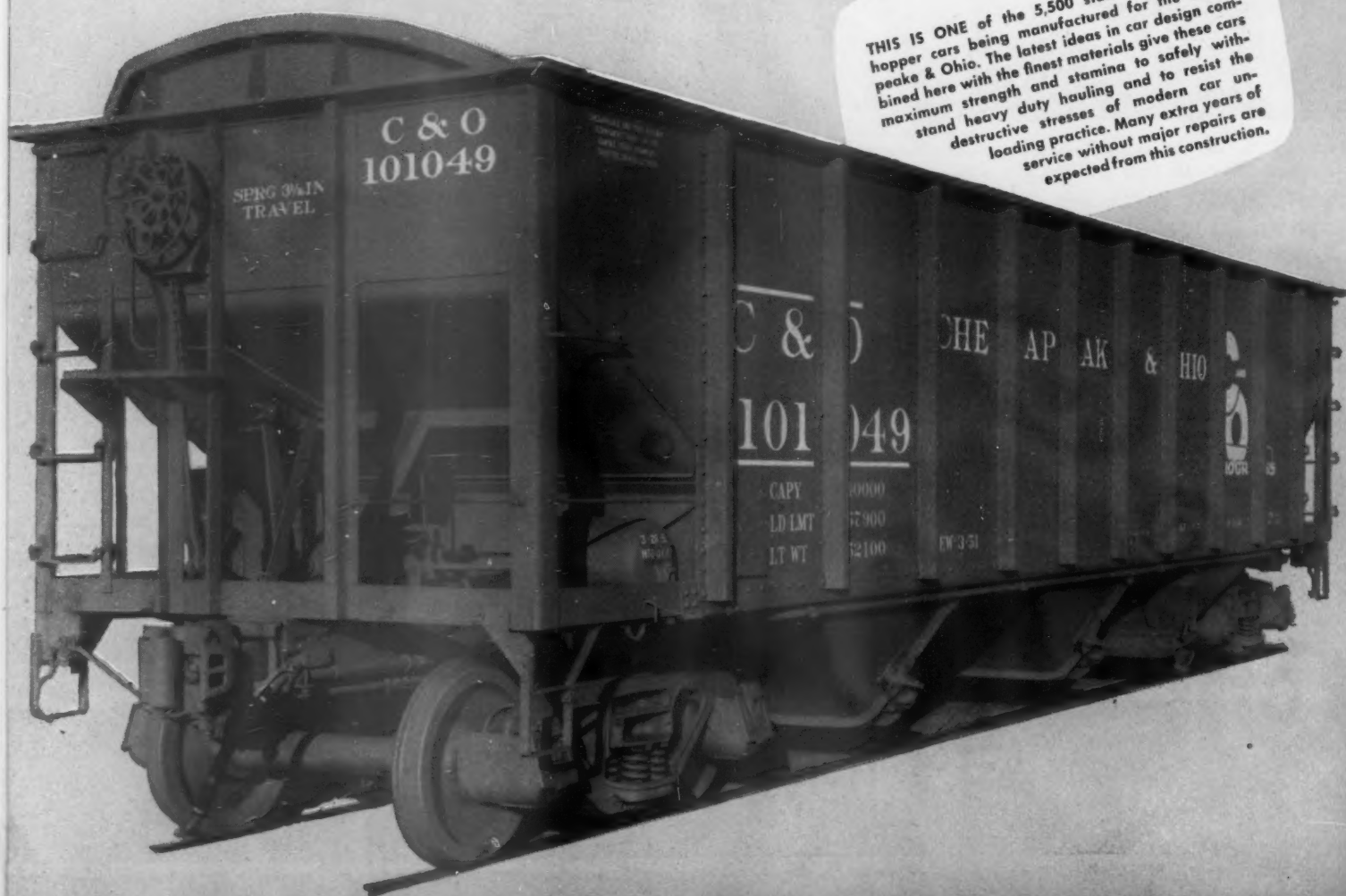
## **C & O standardizes on Multiple- W**



HERE, U·S·S Wrought Steel Wheels leave the truck shop and are on their way to installation on a 70-ton C & O hopper car. The better performance for which these wheels are noted, determined their use here.



ON THE ERECTION TRACK, the underframe is placed on trucks and started down the track for completion of body. The ability of U·S·S Wrought Steel Wheels to deliver long-mileage service makes them a perfect match for extra-rugged hopper car bodies especially designed to prolong life.



THIS IS ONE of the 5,500 standardized 70-ton hopper cars being manufactured for the Chesapeake & Ohio. The latest ideas in car design combined here with the finest materials give these cars maximum strength and stamina to safely withstand heavy duty hauling and to resist the destructive stresses of modern car unloading practice. Many extra years of service without major repairs are expected from this construction.

SERVO 3/4 IN  
TRAVEL

C & O  
101049

C & O  
101049

CAPY 70000  
LD LMT 72900  
LT WT 52100

FW 351

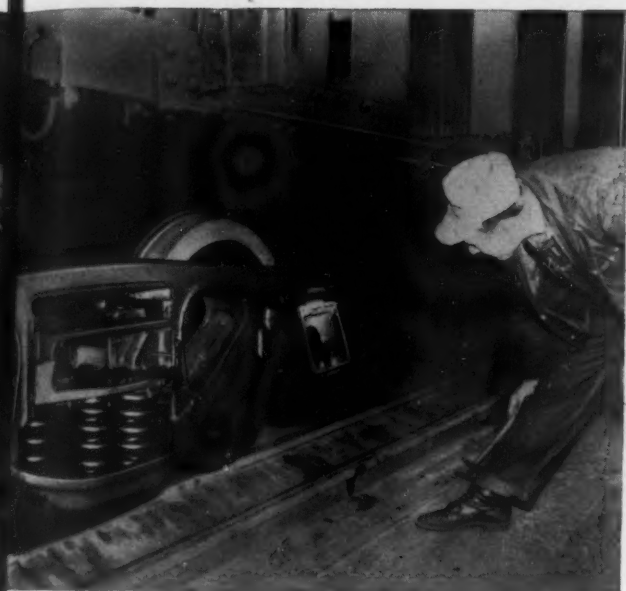
CHE AP AK & HIO

1000



life with extra long wheel life

## Wear Wrought Steel Wheels



AT THIS STATION the trucks and wheels are receiving a final inspection prior to shipment. These wheels will spend very little of their future time on the repair tracks . . . they're made of long-lasting wrought steel.

**Used on its entire fleet of  
5,500 new, high-strength  
70-ton hopper cars**

WHEN THE CHESAPEAKE & OHIO standardized on High Strength Steel construction to increase the life of its new 70-ton hopper cars, it naturally wanted wheels that, like the car bodies, would be certain to stand up longer in service. So they also standardized on Multiple-Wear Wrought Steel Wheels. These wheels not only assure the highest mileage but the utmost safety at high speeds.

Today when maintenance and replacement costs must be kept as low as possible, these wheels—good for the long run—are especially valuable because they practically eliminate maintenance. That's why top railroads like the Chesapeake & Ohio equip so many of their heavy hauling cars with U-S-S Multiple-Wear Wrought Steel Wheels. Their ability to *last*—to deliver *more ton-miles per dollar* than any other type of wheel—is a matter of record.

There are good reasons for this. U-S-S Multiple-Wear Wheels are so carefully controlled in manufacture that the finished product will withstand the fastest speeds and most severe loading. For example, the ingots from which the wheels are made go through an *extra* rolling process before being cut into blocks. This extra operation materially improves the physical properties of the steel and ensures the better performance for which these wheels are noted.

To help you get these superior long-mileage wheels more promptly, we have two strategically-located wheel shops—one at McKees Rocks (Pittsburgh) Pennsylvania, to service the East and Southeast, and the other at Gary, Indiana, to supply Western and Southern lines. No other manufacturer of wrought steel wheels offers you service like this.

The next time you order wheels, for new high duty equipment or for replacement, specify U-S-S Multiple-Wear Wrought Steel Wheels—they'll give you the longest service at the lowest cost.

### U-S-S WROUGHT STEEL WHEELS

One-Wear Freight Car Wheels  
Multiple-Wear Freight Car Wheels  
Passenger Car Wheels  
Diesel Locomotive Wheels  
Steam Locomotive Wheels  
Electric Locomotive Wheels  
Tender Truck Wheels  
Electric Transit Wheels  
Crane Track Wheels

UNITED STATES STEEL COMPANY, PITTSBURGH • COLUMBIA STEEL COMPANY, SAN FRANCISCO  
TENNESSEE COAL, IRON & RAILROAD COMPANY, FAIRFIELD, ALA. • UNITED STATES STEEL EXPORT COMPANY, NEW YORK

1-163



**U-S-S WROUGHT STEEL High-Duty WHEELS**

UNITED STATES STEEL

#### TRACK SCALES

The railroad world's long-time favorite



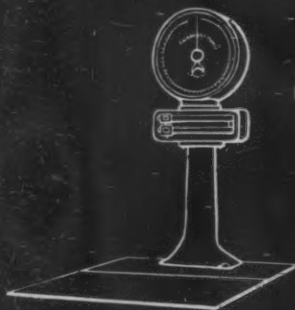
#### TURBINE PUMPS

Oil or water lubricated models



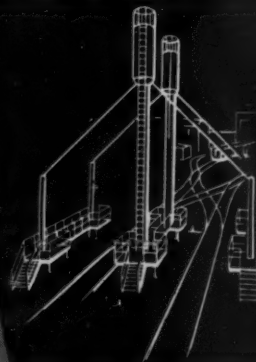
#### WAREHOUSE SCALES

Dial scales for warehouse weighing



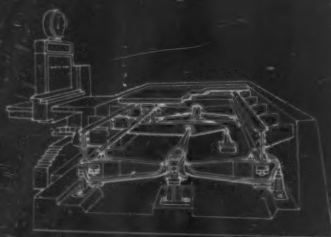
#### SAND STATIONS

with new, fast-action, easy-to-use sand nozzles.



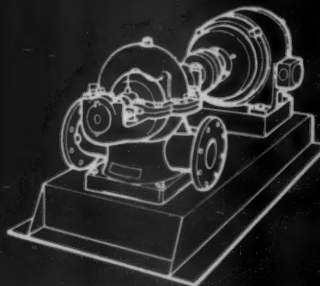
#### TRUCK SCALES

True weight measurement for years of off-track operation



#### CENTRIFUGAL PUMPS

Also positive displacement types for fueling stations



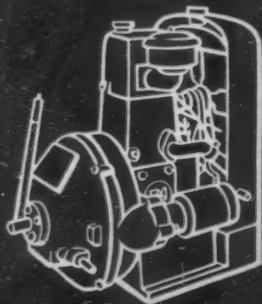
**FOR COST-REDUCING RAILROAD EQUIPMENT...**



# FAIRBANKS-MORSE,

**a name worth remembering**

DIESEL LOCOMOTIVES AND ENGINES • ELECTRICAL MACHINERY • PUMPS • SCALES  
HOME WATER SERVICE • RAIL CARS • FARM MAGNETOS

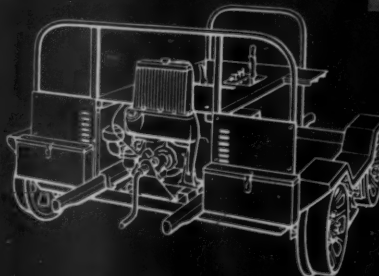


#### GENERATING SETS

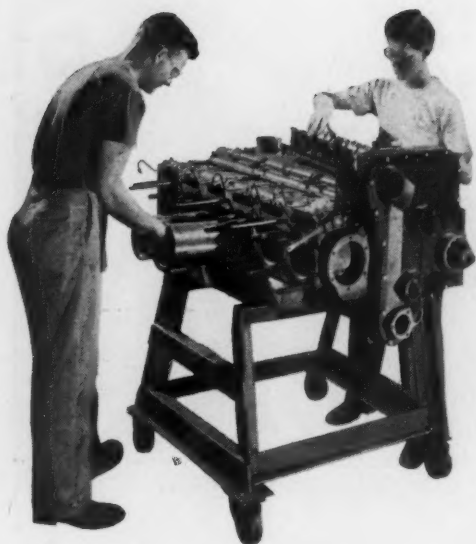
Gasoline and diesel engine models

#### RAIL CARS

Complete gang and inspection equipment, including the new model 101 with immediate reverse and other safety features.







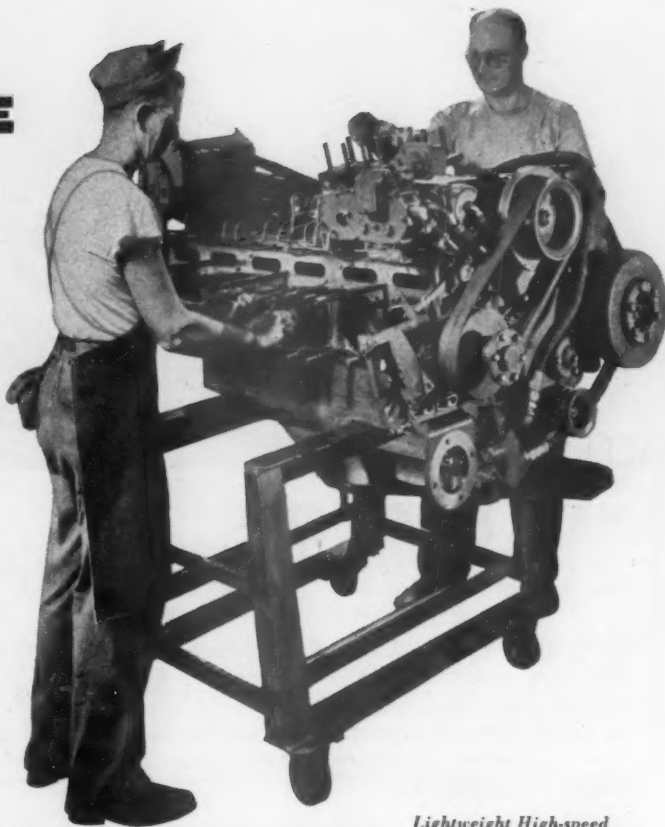
# Cummins®

CUSTOM BUILT

## Diesels

### BUILT NOT ONCE BUT TWICE

You get more power and profits with Cummins Diesels. They're custom-built to fit your job, and your equipment. And they are literally built *not once but twice*. Each engine is assembled, run-in tested, disassembled . . . inspected, reassembled and *tested* again. Such precision building, Cummins exclusive fuel system, efficient service and parts organization . . . mean *less* "down-time" and *more* profitable power from every Cummins Diesel Engine. See your Cummins dealer.



**CUMMINS ENGINE COMPANY, INC., COLUMBUS, INDIANA**  
Export: CUMMINS DIESEL EXPORT CORPORATION Columbus, Indiana, U. S. A. • Cable: CUMDIEX

*Lightweight High-speed  
Diesel Engines (50-550 hp)*

*for: on-highway trucks  
off-highway trucks • buses  
tractors • earthmovers  
shovels • cranes  
industrial locomotives  
air compressors  
logging yarders and loaders  
drilling rigs  
centrifugal pumps  
generator sets and power units  
work boats and pleasure craft*

**Diesel power by  
CUMMINS**





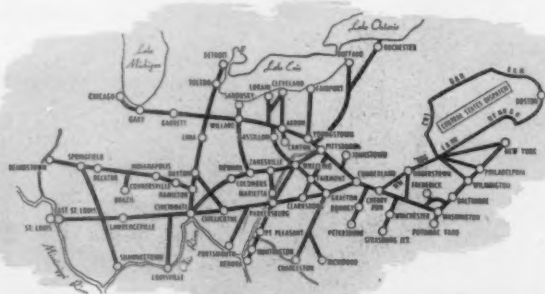
## NEW VIGOR FOR *"America's Lifeblood!"*

Long skilled in producing "miracles" to order, and now spurred by the emergency, America's chemical industry has gone all out. In laboratory, in pilot plant, in immense new production facilities unequalled anywhere, chemical engineers are waging a mighty battle.

In the valleys of the Ohio River, where yesterday cornfields stood and bird dogs roamed, a thriving "American Ruhr" has sprung up. We of the Baltimore & Ohio have helped develop it—locating chemical plants and their supporting industries *where they ought to be.*

In other areas, too, the B&O is assisting the chemical industry in meeting the challenge of

Preparedness. With new equipment, better facilities, and more efficient methods of freight handling, our excellent transportation service assures a constant flow of America's "lifeblood."  
"Ask our man!"



# BALTIMORE & OHIO RAILROAD

Constantly doing things—better!



# ***NOW... for railroads' forward planning!***

## **Type "F" INTERLOCKING COUPLER**

### **for freight service**



Type F and Tightlock Coupler



Type F and Standard E Coupler

#### **FIVE OF THE IMPORTANT FEATURES**

1. **REDUCTION OF FREE SLACK AND INTERLOCKING.** Type F design with interlocking feature means considerably less free slack yet it meets all operating conditions of standard E Coupler.
2. **INTERCOUPLING.** Type F design can be used with any standard A. A. R. coupler.
3. **UTILITY.** Due to interlocking feature, mated F Couplers prevent vertical slipovers... resist climbing and overturning.
4. **SAFETY LEDGE.** Designed to support mated coupler in event of pullout.
5. **LOWER MAINTENANCE.** Less vertical movement and less free slack mean Type F Coupler contours hold within gage longer for lower maintenance cost.

Keeping pace with advanced thinking and planning in promoting design of the Type F Coupler, *National* is ready *now* for maximum production.

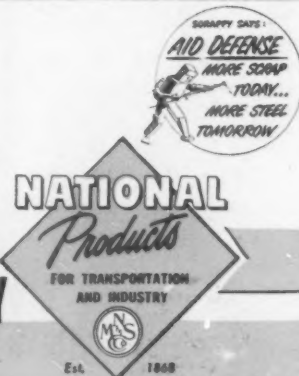
The well-recognized facilities involving engineering design, research and quality controlled production which have made *National* pre-eminent in the development of improved devices for railroads, continue to be available to meet demands for the Type F Coupler.

We are anxious to serve your programs for improved operation of rolling stock.

## **NATIONAL MALLEABLE and STEEL CASTINGS COMPANY**

Cleveland 6, Ohio

COUPLERS • TRUCKS • YOKES • DRAFT GEARS • JOURNAL BOXES AND LIDS



**THE WORLD'S NEWEST  
AND FINEST FREIGHT CAR!**

# Unicel

Perfected by Pressed Steel Car Company, pioneer manufacturers of railroad equipment, UNICEL incorporates *advanced* engineering principles, modern construction materials, 20th century thinking. Laminated for strength and lightness, UNICEL is more durable than conventional steel cars, carries a bigger payload, can be produced faster, will cost less to operate and maintain. To railroads, shippers and receivers, UNICEL will mean faster, safer, more economical transportation of goods than ever before possible.

*Unicel* has been thoroughly pre-tested on the road and in the laboratory. It is now undergoing official road tests on one of the nation's railroads.

## ADVANTAGES

### *Unicel*

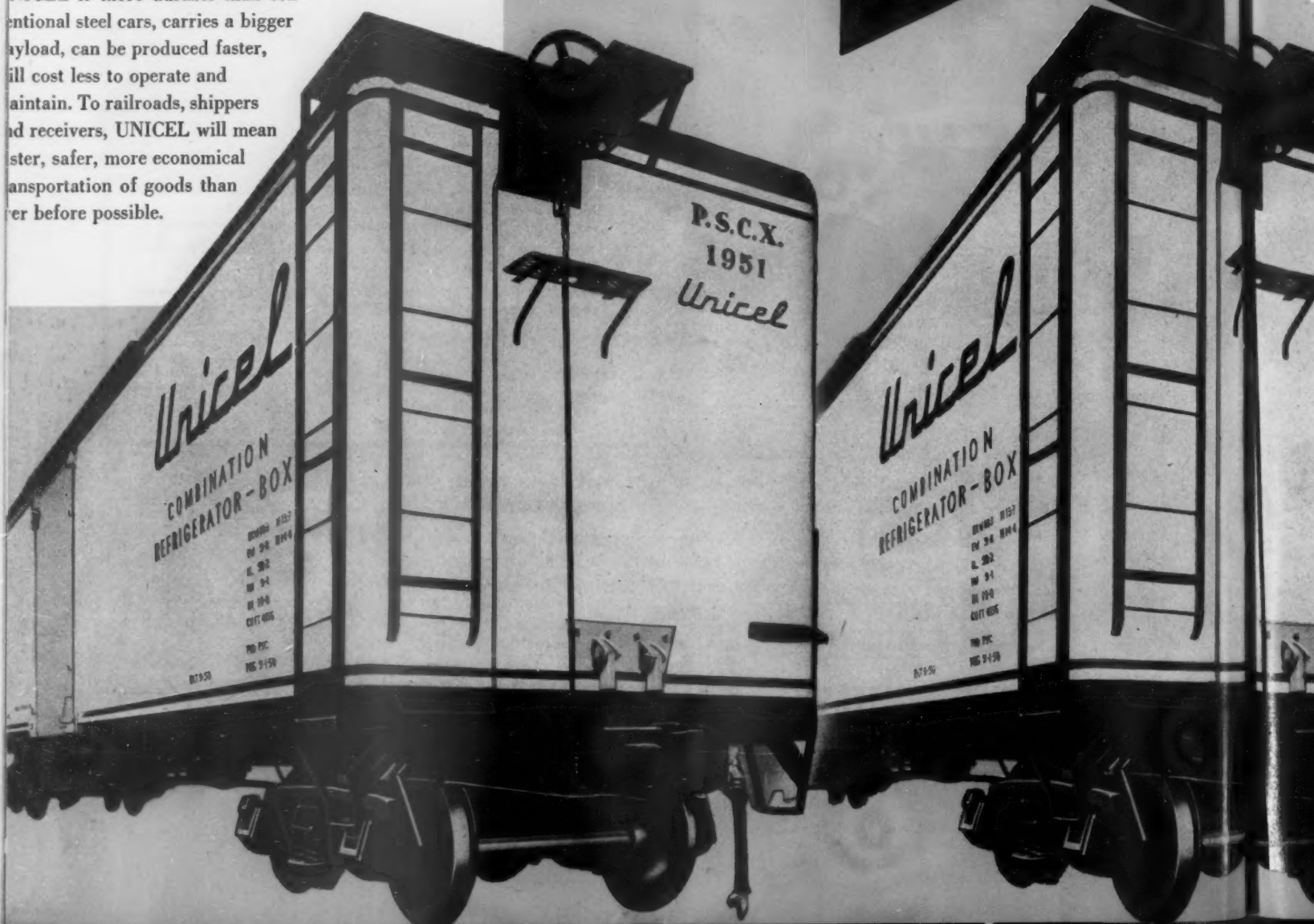
has Unisorb, a floating draft sill built into the ends of the car to protect car and lading. There is 66% less road shock, less vibration. The car will require fewer repairs, will cost less to repair, will be easier to repair if repairs are necessary. UNICEL resists corrosion.

### *Unicel*

uses less steel than conventional cars and lends itself to modern, mass production techniques.

### *Unicel*

with its 8 foot door, is easier to load mechanically, easier to clean and keep clean. Built-in UNISTRAPPING ties down loads safely and quickly without dunnage.



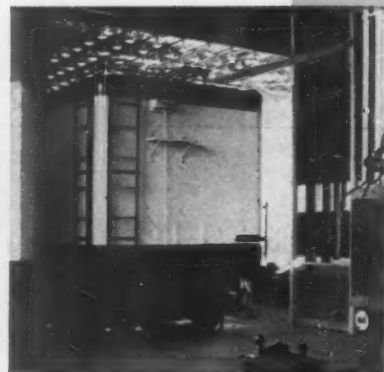
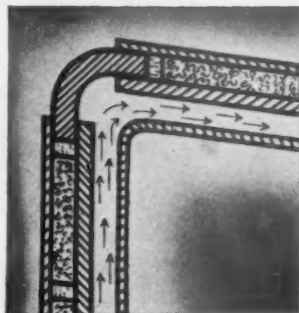


# VERSATILE! As a freight car it's *Unicel*

## AS A COMBINATION FREIGHT AND REFRIGERATOR CAR IT'S *Unitemp*

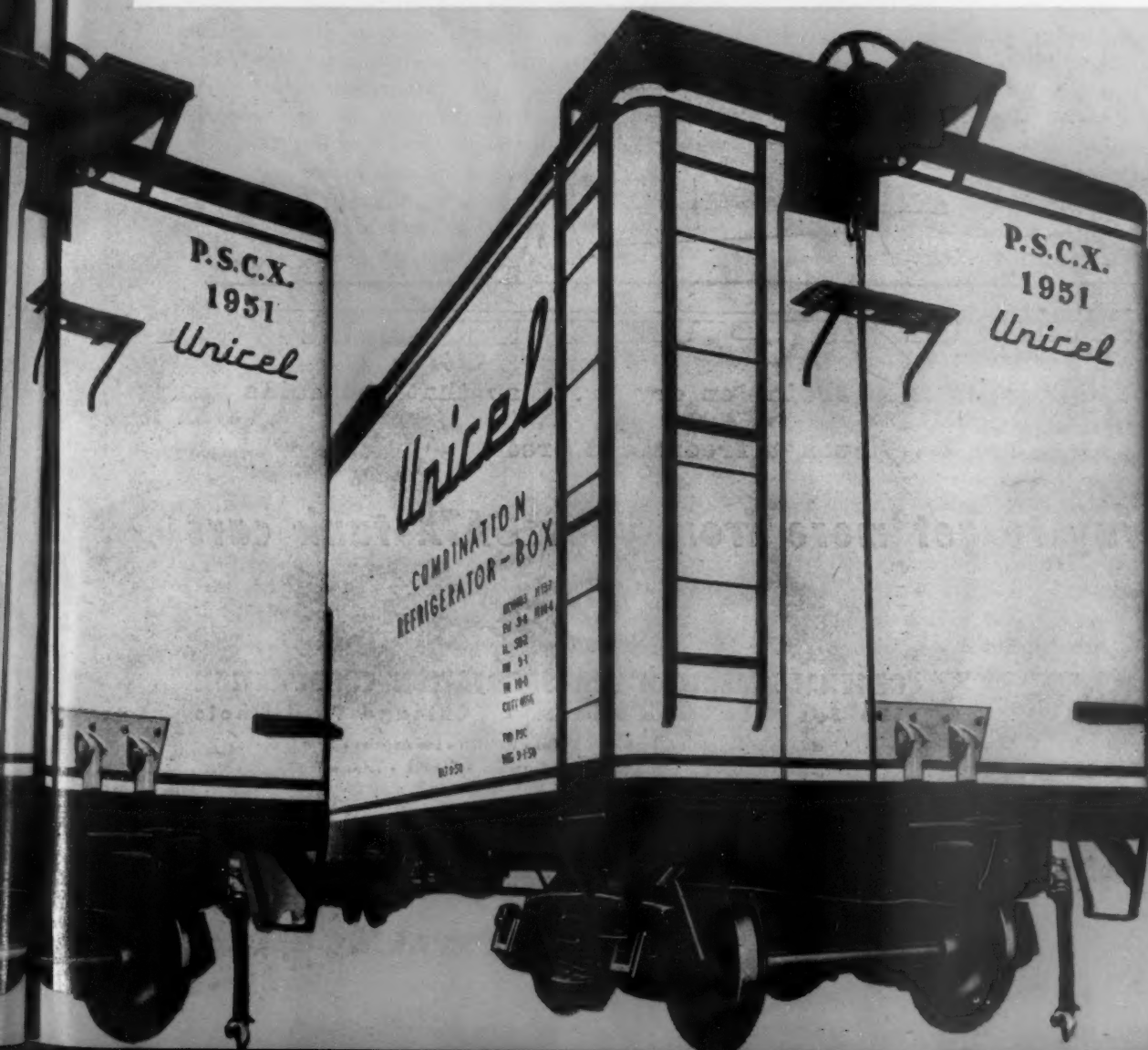
To the basic UNICEL car, special insulation, an inner wall and a mechanical refrigerating unit can be easily added. Then UNICEL converts to UNITEMP—a refrigerator car with 75% more capacity than a 40 foot car of comparable weight. Tests prove UNITEMP superior in every way to the average refrigerator car now used by the railroads.

- ★ Maintains a more uniform temperature
- ★ Condensation and dehydration are kept to a minimum
- ★ Controlled temperatures between 0°F and 55°F can be maintained as long as desired
- ★ Two mechanical refrigerating units offer 100% security



### **PRESSED STEEL CAR COMPANY, INC.**

6 N. Michigan Avenue, Chicago, Ill. • 230 Park Avenue, New York



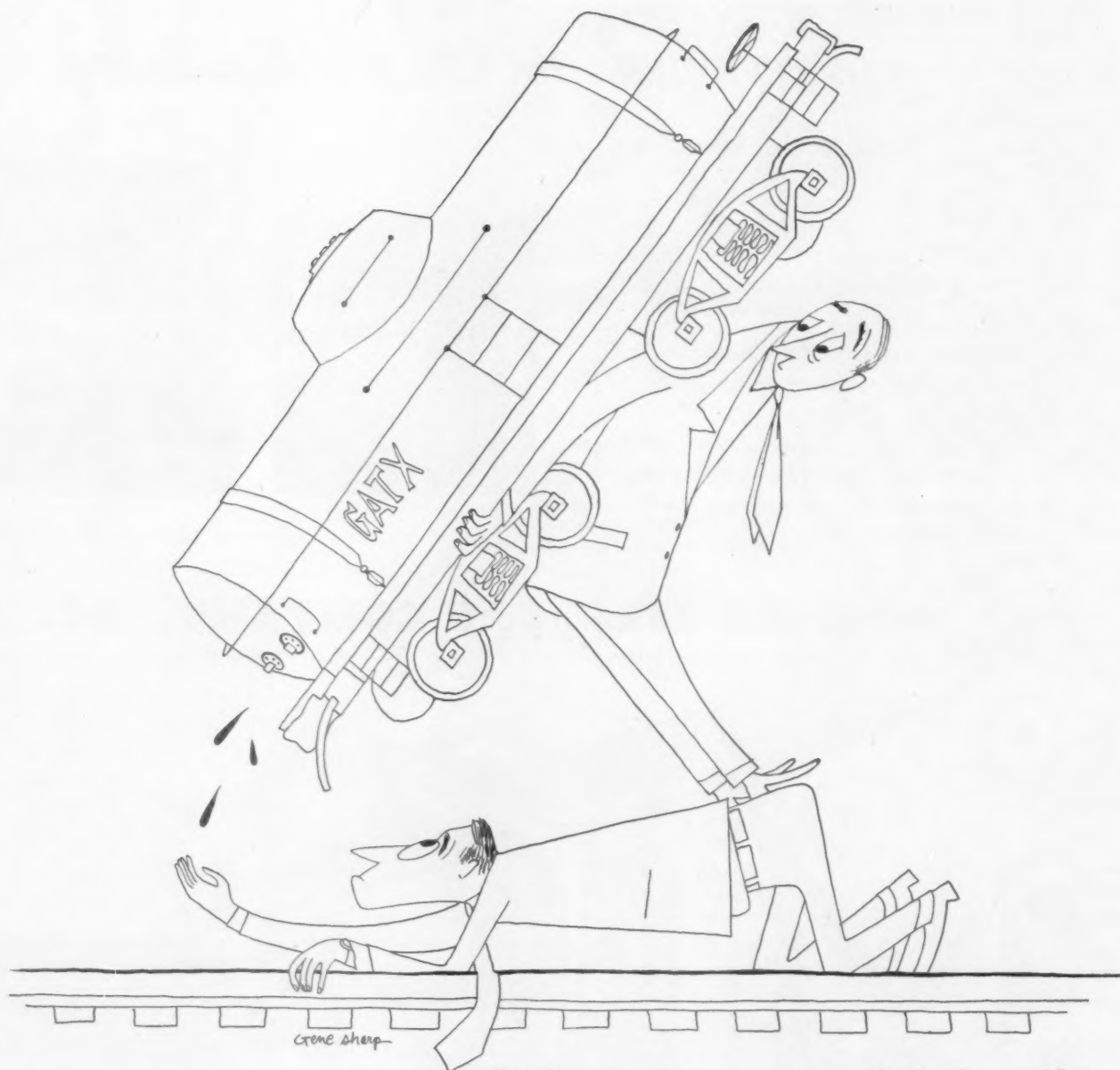
Get full information  
about this revolutionary  
new freight car today!

Write  
**Pressed Steel  
Car Company**

6 N. Michigan Avenue  
Chicago, Ill.

230 Park Avenue  
New York

## THE CARE AND NURSING OF TANK CARS



Drain 'em dry . . . so that the coils  
won't freeze and break.

**Another way to get more from your GATX tank cars**



## GENERAL AMERICAN TRANSPORTATION CORPORATION

**135 South La Salle Street • Chicago 90, Illinois**

**District Offices:** Buffalo • Cleveland • Dallas • Houston • Los Angeles • New Orleans  
New York • Pittsburgh • St. Louis • San Francisco • Seattle • Tulsa • Washington

**Export Dept.:** 10 East 49th Street, New York 17, New York

***So many people have requested reprints of these cartoon advertisements that we are making them available to you for use in your shops. Just write us.***



### THE CUSTOMERS ARE WORRIED—AND THINKING

The customers of the railroads are worried. They are giving hard thought to the things they can do to abolish the cause of that worry.

The 44th annual meeting of the National Industrial Traffic League, held in Chicago the week before last, went through too crowded a docket—with full consideration of reports from 37 separate committees—to be characterized by a phrase. The shippers have too complicated a business life to lend themselves to self-conscious “missions” of any kind. The usual concentrated attention had to be given to routine subjects, like uniform classification, car-weighting arrangements, and diversion and reconsignment.

Nevertheless this paper's reporter—who was generously permitted to attend sessions, from which representatives of the carriers are barred—believes the meeting had an overtone, an “atmosphere,” of deep concern for the continuance of private operation of transportation in general and the health of the railroads in particular. While the role of the N.I.T. League has long been that of “promoter of sound, economical transportation,” its search for new policies has never before, we suspect, been so deep, so detailed—and even revolutionary.

#### **Mood of Experiment**

Think of this: Among other things, the membership gave careful consideration to a proposal submitted last August by A. M. Ribe, of Birmingham, Ala., which suggested according the railroads the right to determine the general level of their rates, and went so far as to argue for removal of the power of the Interstate Commerce Commission to suspend general increases. In weighing Mr. Ribe's plan, the league's important Special Committee on Transportation Outlook and Policy not only found “considerable merit” in the “basic suggestion” of Mr. Ribe, but went further, on its own, to declare that the times “point clearly to the need for revision in our regulatory processes so as to avoid the unreasonable lag between increases in operating ex-

penses and increases in rates and charges” (emphasis supplied).

And note this: Although shippers will have to pay higher rates if the railroads get the balance of what they seek in Ex Parte 175, those at the league meeting failed to take a clear stand in opposition; they backed and filled and ended up with a vote to file no answer, but to insist on a full hearing.

And consider further: The main speaker at the luncheon was president of one of the country's largest integrated oil-producing-and-transporting organizations. Oil companies are the chief beneficiaries of government expenditures on inland and coastal canalization. They are also directly favored by subsidization of highway transportation—both in the movement of their own trucks and in the resultant stimulation of the sale of fuel for highway transportation. Yet this speaker went so far as to call attention to the fact that the government clearly discriminates in its financial support of the carriers, and expressed the opinion that “artificial” factors in the choice of transportation were bad for everybody.

#### **For Business—Not Theory**

Industrial traffic managers are under pressure from their managements to move goods at less expense than can their competitors; they are hardboiled, not easily tempted into theorizing about what is right and what isn't. They have not undertaken an inquiry into transportation fundamentals for the sake of theory, but because of practical considerations—namely, the report “for information only” submitted by the league's special policy committee to the effect that: “it is quite evident that unless some change in the law is made, under which carriers are given a greater degree of latitude in determining rates and charges necessary to meet changes in costs of operation, or some modification is made which will substantially reduce or eliminate the lag between increases in costs of operation and increases in rates and charges, we are very likely to be faced with

government ownership and operation of our transportation facilities."

The members of the league mean business. The special policy committee—whose membership is almost a directory to the best minds of the profession—urges that "action on all transportation policy questions be reviewed periodically and that such policies be compiled and set forth in a single document for easy reference by league members." It explains that certain traditional policies of the league "were established several years ago—and it is quite likely that, in the light of changed conditions, a different position might now be taken by the league if the matter were reconsidered" (emphasis supplied).

The chairman of the committee is Arthur H. Schwietert, transportation director of the Chicago Association of Commerce & Industry, whose almost self-less statesmanship is beginning to get the attention it deserves. Charles W. Braden, general traffic manager of National Distillers Products Corporation—a true scholar in the field of transportation—and Lester J. Dorr, newly appointed assistant secretary of the league, are presently

engaged in compiling new policies for the organization. A tentative report on their work has already been reviewed by the special committee, and the full statement is expected to be completed within a short time. Under such direction, the "credo" may be expected to be as fair and as complete a guide to shippers' action as the divergent interests of the league's membership will allow. It is certain to be realistic.

To translate good policy into action, some members of the league will have to put away some cherished prejudices. They will, for example, have to face the fact that private fleets of trucks and barges are not only "company business"; that they are a growing, disruptive factor in the weakening of the common carriers, and that they must be dealt with as such. They will have also to reassess their views on the rates which ought to apply to low-value raw materials, in relation to those on finished products, to reflect realistically the manner in which the various types of traffic actually move today.

But the country's leading shippers appear to be well on their way to taking the long-range view. They are worried. They have reason to be.

## DOES THE I. C. C. WANT GOVERNMENT OWNERSHIP?

The Interstate Commerce Commission is inviting disaster by its inaction on the railroads' petition for a reopening of the 15-per-cent-rate-increase case, as requested by the railroads over a month ago. Nobody in the country is more fully aware than this commission of the extent to which the nation is dependent upon the railroads for essential transportation service—as well for civilian as for military needs. Moreover, the commission is cognizant of the fact that the railroads have no resources except their net earnings from which to acquire funds, either directly or through credit, for plant renewal and improvement.

The commission knows, furthermore, that railroad facilities—especially equipment—are not adequate to present and prospective demand. It also knows, from the September earnings figures, that the rate increases it granted in the Ex Parte 175 proceeding have fallen far below producing what is required to provide the funds, either directly or through credit, for the renewal and improvement of plant, needed to keep railroad service abreast with service demands.

The whittled down freight rate increases in Ex Parte 175 were put into effect toward the end of August. The September figures, therefore, fully reflect the result of these increases on railroad earnings, and in September the railroads earned less than \$76 million of net railway operating income. Since September usually accounts for 11 per cent of the year's net railway operating income,

it is evident that the Ex Parte 175 increases have established annual net railway operating income on an annual basis of only about \$700 million—which everybody familiar with the facts knows is less than half what the railroads ought to be earning in a time of relatively heavy traffic, if there is to be any hope of restoring railroad credit, and assuring dependable access by the railroad industry to private investment resources.

It is appalling to note that the railroads in September 1951 actually had lower net earnings than they had in September 1941—at the end of a decade of the worst depression in the country's (and the railroads') entire history. The specific figures are as follows:

	Railway Sept., 1941 (million)	Results in Sept., 1951 (million)	% Inc. or Dec.
Operating revenues	\$489	\$856	+ 75
Operating expenses, rentals and taxes	385	780	+103
Net operating income	104	76	- 27

It is hard to believe that the Interstate Commerce Commission is deliberately trying to force the railroads into some form of government ownership. On the other hand, how is it possible to believe anything else? The I.C.C. knows the railroads' needs for new investment funds. It knows the inadequacy of present earnings to provide such funds in necessary volume. Nevertheless, it is wantonly neglecting to do anything whatsoever to enable the railroads to achieve larger earnings. No Sherlock Holmes is required to reach the inevitable conclusion—that is, if the I.C.C. itself is not actively seeking government ownership of the railroads, then it must be conducting the course of events in that direction out of deference to governmental agencies which do have that goal in mind.





In each freighthouse, the office is arranged so that the check clerks can have a clear view of the floor. This view, taken at the Frisco's St. Louis house, shows the control panels and telephone head-sets used by the telephone check clerks. The switches on the control panel are numbered to correspond with the outlet plug locations on the freighthouse floor. To the right are the unitized amplifiers and power supply which can quickly be changed out in cases of failure



Each system has one or two monitor phones which can be used to check on the manner in which business is conducted both by dock crews and check clerks. The hand set being used by W. G. Mullins, general agent at Springfield, Mo., is equipped with a press-to-talk button. By turning the dial, the set can be connected with any line in the system, or with the public address system. Seated, and working with Mr. Mullins, is Lee Howell, warehouse foreman

## New Frisco Telephone Checking System Cuts Costs

Extraordinary savings from a small investment have been realized by the St. Louis-San Francisco as the result of a new telephone checking system installed in its St. Louis and Springfield (Mo.) freighthouses. The Springfield installation, completed last January, has shown a *monthly* saving of \$1,000 on an investment of approximately \$4,000. The St. Louis installation, finished last August, is expected to show a *monthly* saving of \$3,000 on an investment of about \$20,000. These two installations are the outgrowth of the Frisco's experience with its original telephone checking system installation—believed to be the first in the country—at its Memphis station in the fall of 1949 which produced a *monthly* saving of \$1,000 on an investment of \$9,000.

The Frisco has achieved these savings from a system of telephone checking which it originated and has perfected to the extent that the capital requirements are low, with equipment designed for simple operation and economical maintenance.

The idea of telephone checking is credited to Gordon Robertson, the Frisco's freight agent at Memphis, and to R. W. Troth, the road's superintendent of signals and communications, who hit upon the idea while critically studying I.C.L. freight handling operations. Their ideas were incorporated into a test installation at the Memphis freight station put into service in the fall of 1949. It proved so successful in reducing costs that the basic

idea has been improved upon and extended to the newer installations at St. Louis and Springfield. These new installations are based on different types of equipment, reducing the capital investment required but producing equivalent savings.

The Frisco's freight station at Memphis employs an average of 18 dock crews—with some variation depending upon traffic conditions. These crews handle an average of 40 inbound cars and 45 outbound cars a day plus about 20 in and outbound trucks (not including pick-up and delivery). As on most railroads, each dock crew consists of a "picker" who sorts the freight in the car, a check clerk who checks each package against its waybill for routing and possible discrepancies, and two or three handlers with transfer trucks or dollies.

Repeated observations showed that the average check clerk—even though working under adverse conditions as to weather and proper place to handle all his papers—completed his paper work in far less time than it took the rest of the crew to handle the actual packages. This meant that the check clerk usually stood around with his hands in his pockets about two-thirds of the time—an increasingly undesirable situation in the face of increasing wage costs.

A simple solution was evolved: Place the check clerks in an office—properly equipped for them to handle their paper work—and connect them with the "pickers" by means of telephones. In this way, one check clerk could handle the work of three dock crews—and handle it more accurately and efficiently as the result of having better working space and facilities.

This was done at Memphis, with the check clerks

placed in a centrally located office on the freighthouse floor, properly heated, lighted and soundproofed, and connected with each loading or unloading station on the platforms by telephone lines with outlet jacks. Each dock crew is provided with a portable telephone handset with a long cord for plugging in to any of the numerous outlets. The "picker" then dials a number to connect him with the check clerk handling the waybills for the car or load being worked. The check clerk compares the information relayed by phone with the waybills in front of him, and tells the "picker" the proper routing for each shipment. Experience has shown that, using this system, one check clerk can easily handle all of the waybills for three and sometimes four dock crews. Further, his checking is more accurate, and his pencilled notations are more legible—a help in reducing loss and damage payments.

The original Memphis system—which is still in active use—is based on a commercially available 40-line automatic dial telephone system with portable dial telephone sets which the dock crews carry with them and set down in a convenient place, or hang on a nail in a car or truck, and plug in to a nearby telephone outlet. A total of 30 telephone outlets are placed on posts, carefully spaced throughout the freighthouse so as to be within easy reach of every working area, with each outlet connected to a line leading to a central switchboard.

Positions are provided for eight check clerks, and one "monitor phone" for the agent to use in "policing" the circuits. The system also includes a public address system which the check clerks—or supervisors—can use to page individuals or to make general announcements. There are two microphones in the office, and 4 paging horns properly spaced about the freighthouse. The entire installation cost \$9,174 for telephone equipment and installation, not including the cost of construction of the office where the check clerks are located.

This dial system accomplished the desired results—and turned in savings even greater than expected. It was so successful, in fact, that it was decided to make similar installations in four other stations. However, an evaluation of the dial system showed that it has certain inherent disadvantages for this particular application.

Since the function of the system is simply to provide communication between several crews and a clerk, the communications and signal department thought the equipment could be simplified—particularly the equipment used by the crews on the platforms.

#### **Equipment Improved**

To meet this problem, and to reduce the capital cost of future installations, new telephone equipment was designed.

The Springfield and St. Louis installations utilize simplified equipment based on a two-wire, common-battery telephone circuit, with portable telephone handsets equipped with press-to-talk buttons. Each check clerk in the office is provided with a small control panel equipped with a number of double-throw switches corresponding to the number of outlets in the system.

With this system, the "picker" merely plugs in his phone at the convenient nearby outlet and starts talking, announcing his name and the car or "station" number where he is working. His voice comes into the check clerk's office on a loud speaker. The clerk having the proper waybills for that work then flips a switch—numbered to correspond with the caller's station number—on a control panel in front of him. This operation disconnects the loudspeaker and puts the call on to his private head-set. In this way the caller establishes direct

telephone connection with the proper check clerk without the necessity of dialing. As a matter of practice, the check clerks usually tell each caller which car or door to work next, and flip the proper switch ahead of time, making it unnecessary for the caller to come in on the loudspeaker.

The equipment includes a built-in public address system connected to the control panel at each check clerk's desk. By flipping the proper switch, the clerk can make announcements or page any one on the freighthouse platform.

#### **Monitor Phones**

For supervision the system is provided with monitor telephones which are placed in both the agent's and foreman's office. These phones are conventional desk-phone sets equipped with a multiselect which can be turned to cut in on any circuit. The hand set is equipped with a press-to-talk button, so the supervisor can cut in on any circuit, without being heard, to determine in what manner business is being conducted. If, for some reason, he desires to speak or interrupt, he may do so by pressing the button on his handset. These monitor phones are also connected with the public address system, and can be used to page individuals or to make general announcements.

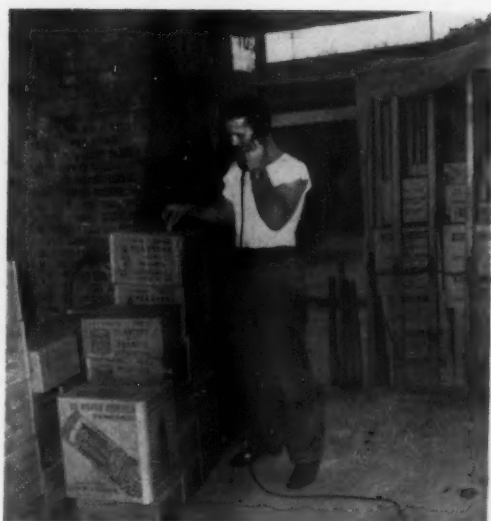
This telephone checking system has expedited work in freight stations in a number of ways besides improving the coverage and accuracy of the checking clerks. A platform gang needing special information calls into the check clerk's office, and if one of the clerks cannot answer his query, he can be connected with the foreman (whose office is adjacent) or the foreman can be paged on the public address system. Or, if, for example, one gang needs a fork lift truck, or wishes to have its platform trucks pulled and emptied, a call to the checking office and an announcement on the public address system brings results in less time than it would take a member of the gang to hunt help on foot. Shipments in need of cooping can be "blocked" directly to the cooping shop, at a considerable saving in time.

#### **Two Freighthouses**

The Frisco's freight station at St. Louis actually encompasses two freighthouses, and four separate operations: the so-called "Seventh Street House" handles all outbound movements of l.c.l. originating in St. Louis or received from connecting carriers; it also houses Acme Fast Freight, a forwarder operation. The "Eleventh Street House" handles all inbound movements, and is also used by Terminal Freight Handling Cooperative, another forwarder.

The "Seventh Street House"—handling outbound freight—receives most of its freight from pick-up-and-delivery trucks and trailers, and from transfer trucks from other railroads. Very few trap cars are handled. The pick-up-and-delivery contractors do all of their own unloading, and actual experience has demonstrated they are pretty good about keeping shipments together. A "caller" usually works with these men as they unload their trucks, checking each package with the check clerks, and chalking the proper "block number" on each package indicating the route of the outbound movement. Most of the loads are handled around the freighthouse platform by Buda "Chore Boys" and Kalamazoo Speed Trucks—either working alone, or pulling four-wheel trailers—working in "loops" between a truck and the various outbound cars or trucks, moving the trailers as rapidly as they become loaded. The loading into the





The new portable handsets are light and easily carried, or hung on a convenient nail when not in use. Each set has a press-to-talk button to keep background noises to a minimum, and extension cords of varying lengths are available. Left, a "picker" is marking a block number—indicating the



route by which the package will leave the station—on each piece of a shipment, as received from a check clerk by telephone. In the 11th Street (inbound) freighthouse in St. Louis, the Frisco has arranged that one check clerk is adjacent to a window to deliver freight bills to truck drivers (above)

outbound car or truck is handled by the stevedores who unload the platform trailers, and properly pack the car.

All billing is handled in the agent's office on the second floor to the front of the "Seventh Street House," and the waybills are sent back and forth by means of a two-tube pneumatic system provided by the Kelly Systems, Inc., and installed by company forces.

The "Eleventh Street House" — about 350 feet removed from the end of the "Seventh Street House" — handles all inbound movements, and the forwarder business of the Terminal Freight Handling Cooperative.

Here most of the freight is received by rail, with a small amount coming in on Frisco Transportation Company "substitute service" trucks. Practically all outbound movement is by truck or trailers with very few trap cars being handled. This makes possible a straight across-the-platform handling. The freight is checked first as each load is broken for distribution to the proper outbound routes, and again as it is loaded into the outbound trucks and trailers. The transfer is handled by fork-lift trucks and wheeled pallets.

#### 4- to 8-Hour Movement

The Frisco is proud of the fact that, with its new handling and checking system, freight moves through this house in an average of 4 to 8 hours—with a maximum delay of two days on freight moving in every-other-day service.

Here again, an office was built in a central location to house the foremen and the telephone check clerks. This office is connected with the agent's office on the second floor of the "Seventh Street House" by a single-tube, two-way pneumatic system so that waybills can be moved back and forth quickly.

The telephone checking and paging circuits in the two St. Louis houses are independent of each other, but the monitor phone in the agent's office is connected with both systems so that he can check any line in either house.

St. Louis handles some 220 cars a week inbound, and 881 cars a week outbound, together with an average of 120 highway and city semitrailers in, and 180 semitrailers out, each week. An average of 100 men per day are employed to handle railroad freight. Handling equip-

ment includes 110 4-wheel trailers, 30 shuttle trucks and 5 fork lifts. The station works a staggered force between 7 a.m. and 5 p.m., and handles an average of 7,000 to 10,000 pounds of freight a month.

The "Seventh Street House" telephone circuit has 35 platform outlets, 8 check clerk positions, 15 paging horns, and 2 monitor phones (not including the agent's monitor phone). The entire cost of equipment installed for the two St. Louis installations was \$22,000, about half of which covered the cost of the new office structures (but not including the cost of repairing the floors). The pneumatic tube systems cost \$8,900 for equipment and installation.

#### Learning from Experience

The checking system at Springfield, Mo., was the pioneer installation of the new type and the lessons learned from it were used to improve the St. Louis installation. However, experience showed that very few changes were necessary—and those were mostly involved with the method of leading the wires into the central offices.

Springfield is a major break-bulk point on the Frisco system, and is a hub where the St. Louis-Oklahoma-Texas and the Kansas City-Memphis-Alabama-Florida lines intersect. As a result, a large amount of its work involves the transfer of freight car-to-car, from car to Frisco Transportation Company trucks, and from F.T.C. trucks to cars. A relatively small amount of freight originates or terminates at Springfield itself. An average of 60 employees move 4,000 to 6,000 tons of l.c.l. freight a month, with 4 fork lifts and 30 shuttle trucks, working one shift a day. The inbound floor has a small circuit with 7 telephone outlets, 1 check clerk position and 4 paging horns. For paging and monitoring it is connected to the circuit on the outbound floor. The outbound floor—where the major part of the transfer work is handled—has 27 telephone outlets, 8 paging horns, and 2 monitor phones.

Equipment and labor for the Springfield installation came to \$2,750, not including the cost of constructing the office enclosures.

*A description of the circuits, design and construction of the telephone equipment appears in an article in the November Railway Signaling & Communications.*

placed in a centrally located office on the freighthouse floor, properly heated, lighted and soundproofed, and connected with each loading or unloading station on the platforms by telephone lines with outlet jacks. Each dock crew is provided with a portable telephone handset with a long cord for plugging in to any of the numerous outlets. The "picker" then dials a number to connect him with the check clerk handling the waybills for the car or load being worked. The check clerk compares the information relayed by phone with the waybills in front of him, and tells the "picker" the proper routing for each shipment. Experience has shown that, using this system, one check clerk can easily handle all of the waybills for three and sometimes four dock crews. Further, his checking is more accurate, and his pencilled notations are more legible—a help in reducing loss and damage payments.

The original Memphis system—which is still in active use—is based on a commercially available 40-line automatic dial telephone system with portable dial telephone sets which the dock crews carry with them and set down in a convenient place, or hang on a nail in a car or truck, and plug in to a nearby telephone outlet. A total of 30 telephone outlets are placed on posts, carefully spaced throughout the freighthouse so as to be within easy reach of every working area, with each outlet connected to a line leading to a central switchboard.

Positions are provided for eight check clerks, and one "monitor phone" for the agent to use in "policing" the circuits. The system also includes a public address system which the check clerks—or supervisors—can use to page individuals or to make general announcements. There are two microphones in the office, and 4 paging horns properly spaced about the freighthouse. The entire installation cost \$9,174 for telephone equipment and installation, not including the cost of construction of the office where the check clerks are located.

This dial system accomplished the desired results—and turned in savings even greater than expected. It was so successful, in fact, that it was decided to make similar installations in four other stations. However, an evaluation of the dial system showed that it has certain inherent disadvantages for this particular application.

Since the function of the system is simply to provide communication between several crews and a clerk, the communications and signal department thought the equipment could be simplified—particularly the equipment used by the crews on the platforms.

#### **Equipment Improved**

To meet this problem, and to reduce the capital cost of future installations, new telephone equipment was designed.

The Springfield and St. Louis installations utilize simplified equipment based on a two-wire, common-battery telephone circuit, with portable telephone handsets equipped with press-to-talk buttons. Each check clerk in the office is provided with a small control panel equipped with a number of double-throw switches corresponding to the number of outlets in the system.

With this system, the "picker" merely plugs in his phone at the convenient nearby outlet and starts talking, announcing his name and the car or "station" number where he is working. His voice comes into the check clerk's office on a loud speaker. The clerk having the proper waybills for that work then flips a switch—numbered to correspond with the caller's station number—on a control panel in front of him. This operation disconnects the loudspeaker and puts the call on to his private head-set. In this way the caller establishes direct

telephone connection with the proper check clerk without the necessity of dialing. As a matter of practice, the check clerks usually tell each caller which car or door to work next, and flip the proper switch ahead of time, making it unnecessary for the caller to come in on the loudspeaker.

The equipment includes a built-in public address system connected to the control panel at each check clerk's desk. By flipping the proper switch, the clerk can make announcements or page any one on the freighthouse platform.

#### **Monitor Phones**

For supervision the system is provided with monitor telephones which are placed in both the agent's and foreman's office. These phones are conventional desk-phone sets equipped with a multiselector which can be turned to cut in on any circuit. The hand set is equipped with a press-to-talk button, so the supervisor can cut in on any circuit, without being heard, to determine in what manner business is being conducted. If, for some reason, he desires to speak or interrupt, he may do so by pressing the button on his handset. These monitor phones are also connected with the public address system, and can be used to page individuals or to make general announcements.

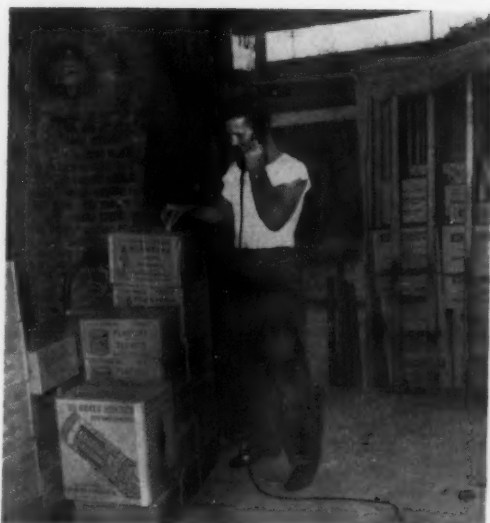
This telephone checking system has expedited work in freight stations in a number of ways besides improving the coverage and accuracy of the checking clerks. A platform gang needing special information calls into the check clerk's office, and if one of the clerks cannot answer his query, he can be connected with the foreman (whose office is adjacent) or the foreman can be paged on the public address system. Or, if, for example, one gang needs a fork lift truck, or wishes to have its platform trucks pulled and emptied, a call to the checking office and an announcement on the public address system brings results in less time than it would take a member of the gang to hunt help on foot. Shipments in need of cooping can be "blocked" directly to the cooping shop, at a considerable saving in time.

#### **Two Freighthouses**

The Frisco's freight station at St. Louis actually encompasses two freighthouses, and four separate operations: the so-called "Seventh Street House" handles all outbound movements of l.c.l. originating in St. Louis or received from connecting carriers; it also houses Acme Fast Freight, a forwarder operation. The "Eleventh Street House" handles all inbound movements, and is also used by Terminal Freight Handling Cooperative, another forwarder.

The "Seventh Street House"—handling outbound freight—receives most of its freight from pick-up-and-delivery trucks and trailers, and from transfer trucks from other railroads. Very few trap cars are handled. The pick-up-and-delivery contractors do all of their own unloading, and actual experience has demonstrated they are pretty good about keeping shipments together. A "caller" usually works with these men as they unload their trucks, checking each package with the check clerks, and chalking the proper "block number" on each package indicating the route of the outbound movement. Most of the loads are handled around the freighthouse platform by Buda "Chore Boys" and Kalamazoo Speed Trucks—either working alone, or pulling four-wheel trailers—working in "loops" between a truck and the various outbound cars or trucks, moving the trailers as rapidly as they become loaded. The loading into the





The new portable handsets are light and easily carried, or hung on a convenient nail when not in use. Each set has a press-to-talk button to keep background noises to a minimum, and extension cords of varying lengths are available. Left, a "picker" is marking a block number—indicating the



route by which the package will leave the station—on each piece of a shipment, as received from a check clerk by telephone. In the 11th Street (inbound) freight house in St. Louis, the Frisco has arranged that one check clerk is adjacent to a window to deliver freight bills to truck drivers (above)

outbound car or truck is handled by the stevedores who unload the platform trailers, and properly pack the car.

All billing is handled in the agent's office on the second floor to the front of the "Seventh Street House," and the waybills are sent back and forth by means of a two-tube pneumatic system provided by the Kelly Systems, Inc., and installed by company forces.

The "Eleventh Street House" — about 350 feet removed from the end of the "Seventh Street House" — handles all inbound movements, and the forwarder business of the Terminal Freight Handling Cooperative.

Here most of the freight is received by rail, with a small amount coming in on Frisco Transportation Company "substitute service" trucks. Practically all outbound movement is by truck or trailers with very few trap cars being handled. This makes possible a straight across-the-platform handling. The freight is checked first as each load is broken for distribution to the proper outbound routes, and again as it is loaded into the outbound trucks and trailers. The transfer is handled by fork-lift trucks and wheeled pallets.

#### 4- to 8-Hour Movement

The Frisco is proud of the fact that, with its new handling and checking system, freight moves through this house in an average of 4 to 8 hours—with a maximum delay of two days on freight moving in every-other-day service.

Here again, an office was built in a central location to house the foremen and the telephone check clerks. This office is connected with the agent's office on the second floor of the "Seventh Street House" by a single-tube, two-way pneumatic system so that waybills can be moved back and forth quickly.

The telephone checking and paging circuits in the two St. Louis houses are independent of each other, but the monitor phone in the agent's office is connected with both systems so that he can check any line in either house.

St. Louis handles some 220 cars a week inbound, and 381 cars a week outbound, together with an average of 120 highway and city semitrailers in, and 130 semitrailers out, each week. An average of 100 men per day are employed to handle railroad freight. Handling equip-

ment includes 110 4-wheel trailers, 30 shuttle trucks and 5 fork lifts. The station works a staggered force between 7 a.m. and 5 p.m., and handles an average of 7,000 to 10,000 pounds of freight a month.

The "Seventh Street House" telephone circuit has 35 platform outlets, 8 check clerk positions, 15 paging horns, and 2 monitor phones (not including the agent's monitor phone). The entire cost of equipment installed for the two St. Louis installations was \$22,000, about half of which covered the cost of the new office structures (but not including the cost of repairing the floors). The pneumatic tube systems cost \$8,900 for equipment and installation.

#### Learning from Experience

The checking system at Springfield, Mo., was the pioneer installation of the new type and the lessons learned from it were used to improve the St. Louis installation. However, experience showed that very few changes were necessary—and those were mostly involved with the method of leading the wires into the central offices.

Springfield is a major break-bulk point on the Frisco system, and is a hub where the St. Louis-Oklahoma-Texas and the Kansas City-Memphis-Alabama-Florida lines intersect. As a result, a large amount of its work involves the transfer of freight car-to-car, from car to Frisco Transportation Company trucks, and from F.T.C. trucks to cars. A relatively small amount of freight originates or terminates at Springfield itself. An average of 60 employees move 4,000 to 6,000 tons of l.c.l. freight a month, with 4 fork lifts and 30 shuttle trucks, working one shift a day. The inbound floor has a small circuit with 7 telephone outlets, 1 check clerk position and 4 paging horns. For paging and monitoring it is connected to the circuit on the outbound floor. The outbound floor—where the major part of the transfer work is handled—has 27 telephone outlets, 8 paging horns, and 2 monitor phones.

Equipment and labor for the Springfield installation came to \$2,750, not including the cost of constructing the office enclosures.

*A description of the circuits, design and construction of the telephone equipment appears in an article in the November Railway Signaling & Communications.*

# Shippers' Forum...

B. Brewster Jennings . . .



**Discusses Baleful Effects of Over-Regulation**

This article is an excerpt from the talk "Economic Lessons from Oil Transportation," delivered by the president of the Socony-Vacuum Oil Company at the annual luncheon of the National Industrial Traffic League in Chicago, November 15. The talk was in two parts, the first dealing with the vital importance of transportation to the industry, and its integration into the industry. The second part, reproduced here, deals with effects of government regulation of transportation.

I am deeply concerned about the danger to our national well-being of the increased regulation of transport. Regulation of transportation should be confined to preventing abuses of government franchises and to assuring the availability of adequate, safe transportation at reasonable rates by for-hire carriers. . . .

Most of us would concede that because of the factors of eminent domain and the limitation of competition by franchise, it is proper for an agency of government to supervise in some manner the rates which public carriers enjoying those privileges can charge. As is well known, however, rate regulation was born when the railroads had a virtual monopoly on all transportation. They no longer have such a monopoly, but—along with other forms of transportation—they have more regulation than ever.

But whatever appears right or wrong about rate regulation, it is my opinion that such regulation interferes with the development of the overall transportation system along optimum economic lines.

A government agency, before it approves rates, takes into account a multiplicity of factors, and unfortunately some of those factors are not concerned with the basic elements of cost. Even with the best intentions and with a minimum of political considerations, the Interstate Commerce Commission, a state public service commission or whatever the agency, approves rates that must be arbitrary to some degree. As a result, when shippers have only a choice of methods of transportation based (Continued on page 92)

Alvin W. Vogtle . . .



**Opposes Blanket Increases in Freight Rates**

This article is an abstract of an address by the vice-president in charge of sales and traffic of the DeBardeleben Coal Corporation of Birmingham, Ala., before the fourth annual Tulane Business Forums sponsored by the Tulane Commercial Alumni Club, New Orleans, November 8.

A solution of the problems of transportation will mean better transportation at lower cost. This is a tremendously important goal. It is readily attainable if there is shipper support and fair competition among carriers. By fair competition, I mean competition based on excellence of service rather than destructive rate cutting.

This can be the traffic manager's greatest hour, because the success of business depends more today than ever before on solution of the problems in his field.

I refer primarily to the profit squeeze on business brought about by freight rate increases in the face of the government price freeze. But I refer also to the increase in operating cost imposed on industry by a car shortage. And I mention parenthetically that freight rates are the key factor in the so-called "basing point price system" on which wide marketing depends. . . .

The vitality of transportation is of first importance, and, definitely, solvency of transportation is fundamental to a healthy and prosperous national economy. In war times the safety of our nation and the freedom of our people depend on adequacy of transportation. This is so because modern warfare is a warfare of production, and all production depends on transportation. So transportation must be viewed from the standpoint of both the peacetime economy of our country, and our military needs in a disturbed world.

However, few phases of our economic system have undergone such profound changes in the past 25 years as transportation. New inventions, new discoveries and new forces demand a recasting of formerly accepted theories and practices. Developments in the new modes of transportation have come rapidly. And the end is not yet. So it is highly important that an adjustment to changed conditions and new competitive forces be furthered with intelligence and vigor. . . .



The railroad monopoly of former years is no more. Further evolution is ahead and this changed character of transportation has created major problems and controversies fraught with deep significance to our nation's welfare. The controversies are disquieting but they do serve to throw into bold relief the value of each medium of transportation in the respective sphere of most useful service, and underscore the vital fact that the destruction of any one of them would shake our economy to its foundation. The problem, simply stated, is one of adjustment. We confidently predict great days for all, rather than disaster for any one of them, provided the character of competition is such that there may be adequate earnings for all.

Overall railroad earnings, as reflected by the rate of return of Class I railroads, separately by districts, for recent years, are shown in the accompanying table.

Rate of Return (Per Cent) Class I Railroads	1949	1950	12 Months Ended August 1951
Eastern District (Including Pocahontas Region) .....	2.48	3.37	3.42
Southern District (Excluding Pocahontas Region) .....	3.40	4.92	5.22
Western District .....	3.08	4.24	4.35

The national average is 3.95 per cent for 1950 and 4.05 per cent for the 12 months ended August 1951. This is a mere subsistence basis. The inadequate rail charges which bring about these unsatisfactory rates of return also depress earnings of other types of carriers because railroad tariffs are largely the pattern for all transportation; and inevitably all transportation rises and falls together.

Certainly, the level of earnings for railroads in average times should be at least 6 or 7 per cent, which is far less than the industrial group's level. This would mean less in bad times but more with increased traffic in good times. Transportation agencies should be permitted to get some fat on their bones in good times, when all business is prosperous, to carry them safely through the lean years. Fair profits and dividends are not antisocial. It is not wicked to make a profit. Only the business which makes a profit attracts investment funds. When a business ceases to take in more than it pays out, its service is impaired and it becomes a drain on society and an insecure place for people to work.

#### Would Simplify Rate Procedure

A simple procedure should be authorized for the transportation agencies so that revenue may be increased promptly when there are major cost increases, such as wage adjustments. I have in mind a short-notice tariff carrying increases in the necessary amount, with an accompanying explanatory statement. Any appropriate hearing could be held later.

But I do not concede the propriety of the recent freight rate increase or the further increase now sought. Instead I underscore the viewpoint reflected by widespread shipper opposition to these recent applications of the railroads for increased freight rates. This view is that the railroads could greatly increase their revenue without a blanket freight rate increase by other means in their own

(Continued on page 90)

## E. Grosvenor Plowman . . .



### Chats About Railroad Passenger Deficits and Truck Use of Public Highways

Mr. Plowman, vice-president—traffic of the United States Steel Company, also holds the highest responsibilities in the field of his chosen profession. He has recently been elected president of the American Society of Traffic and Transportation. In August 1950, he took a leave of absence, at the request of the secretary of defense, to organize the Military Traffic Service for the department, as its director, with the mission of coordinating the traffic functions and policies of the several armed services. This job accomplished, he returned to "The Corporation" full-time last April.

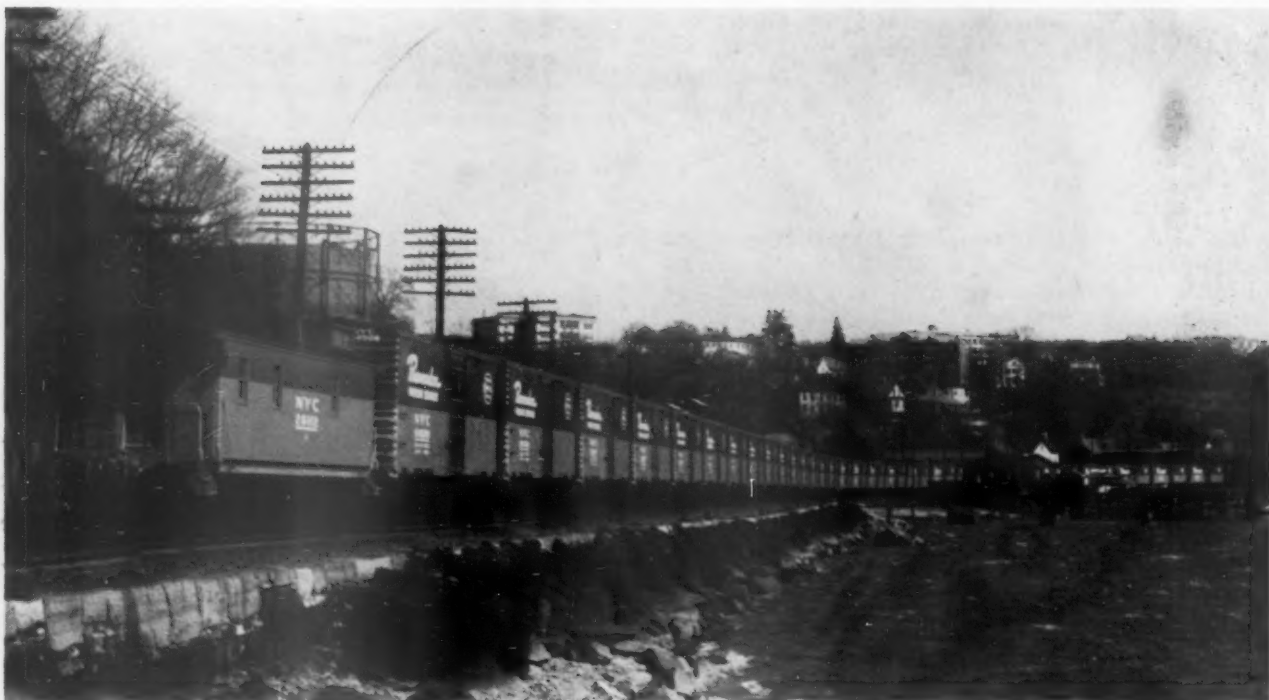
This article is adapted from a speech by Mr. Plowman at the Camden (N. J.) Traffic Club on October 15, which bore the title "Rail versus Highway—Dilemma or solution."

Visualize the modern, well-constructed, maintained and efficiently operated four-track Pennsylvania railroad between Philadelphia and Pittsburgh. Think also of the Pennsylvania Turnpike from King of Prussia, near Philadelphia, to Pittsburgh Interchange—a four-lane modern highway. These two transportation lines may be used to illustrate the problems chosen for this discussion.

Two of the four tracks of the Pennsylvania Railroad may be thought of as having been constructed for passenger trains. They were built to a higher standard than would have been required if used only for freight. Their signal systems, operating procedures and maintenance standards are more costly. Railroad men are often heard making statements to the effect that the passenger portion of the Pennsylvania four-track line across the state is unprofitable, that it is paid for in part by the earnings of the freight trains operating over the less expensive freight tracks.

Turning now to the four-lane Pennsylvania Turnpike, repair crews may be seen from time to time replacing portions of the pavement. There are those who call attention to the greater degree of such replacement in the outer heavy traffic lanes as compared to the inner lanes. They argue from that observation that slow-moving,

(Continued on page 39)



Substituted truck service on the Big Four district of the New York Central is tied in closely with the railroad's "Pacemaker" service

## Substituted Truck Service Speeds L. C. L. on the Big Four

***With 35 tractors and 100 trailers, this operation covers approximately 5,000 route-miles daily***

**A** real increase in l.c.l. tonnage on its Big Four district, plus substantial economies in handling the traffic, has been the result of the New York Central's establishing substituted truck service in that area in 1949. Comparing results for the last few months of 1949, just after the trucking service was inaugurated, with a period of five months in 1951, the railroad has found that despite an overall decrease in the amount of l.c.l. business handled system-wide, traffic on the Big Four district has increased by about 70 tons per day, or an increase of 17,744 tons per year. This means close to \$385,000 per year in additional revenue. At the same time, due to the elimination of peddler car service and other savings, the cost of furnishing l.c.l. service to this area is about \$250,000 less (per year) than before substituted trucking was initiated.

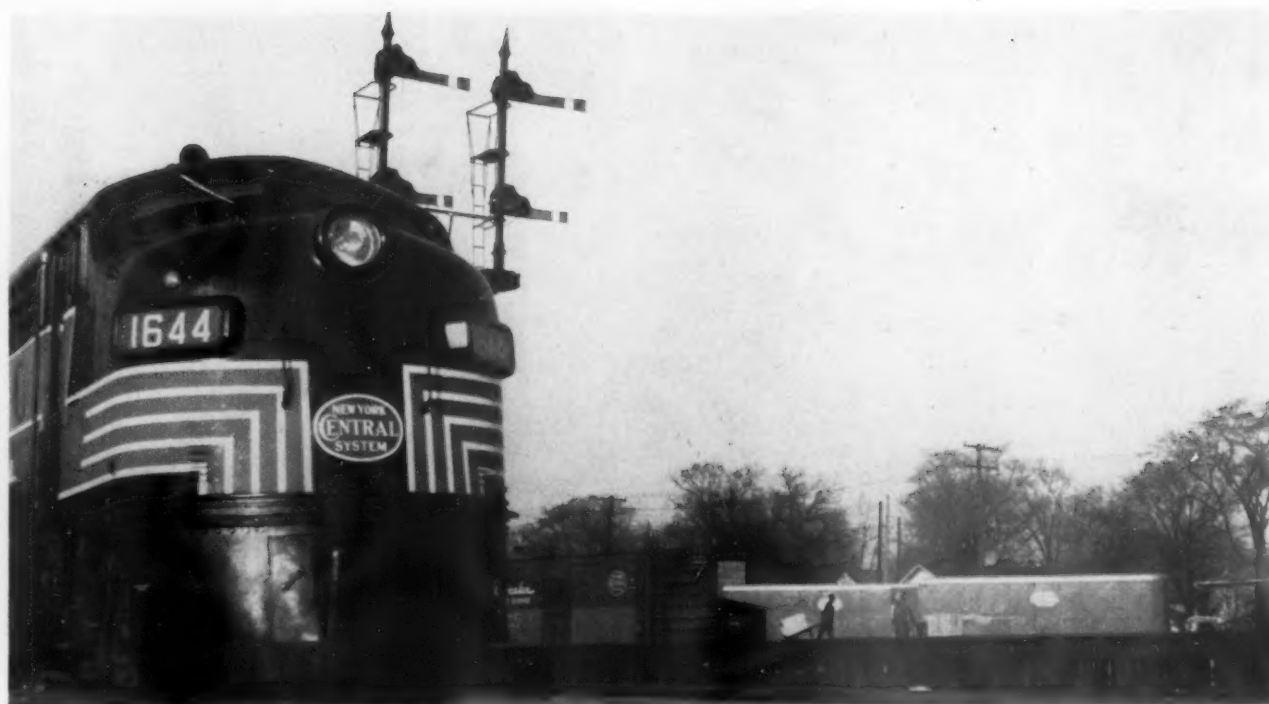
In 1951, these truck routes handled 69.86 tons more per day than they did in 1949, while in 1950, the same routes handled an average of 35.61 tons more per day

than they did in 1949. This increase in tonnage is real, for when truck service was begun on any given route all peddler car service was abandoned simultaneously. This increase has gone entirely counter to the downward trend of l.c.l. business on the system as well as on other railroads. (See Table I.) While there has been an increase in the local business (short haul), this has developed despite the fact that the "key point" system effectively prohibits the railroad from picking up a lot more of this tonnage.

It is significant that there has been an increase in the long-haul business carried, too. The service improvement on the Big Four district as a result of institution of the trucking service, tied in with the "Pacemaker" merchandise train, has been substantial and has attracted long-haul business. In some cases, on traffic outbound, service has been improved as much as 72 hours, with a number of other places receiving service improvements of 24 to 48 hours. Inbound to the Big Four territory, service generally is improved about 24 hours, and sometimes 48 hours.

The reasons for these improvements are simple. Usually, the 300-odd stations served today by the substituted service receive their freight the same day as it arrives at the zone (break bulk) station, since the truck service is daily except Saturday. In most cases, as soon





Men in the background are loading freight from a "Pacemaker" car into trucks which are working in the substituted service



Several New York Central truck routes handle mail or express, either exclusively or in addition to l.c.l. freight

as cars arrive at the zone station they are worked and the freight is delivered by the trucks to the local stations before noon. In the days of the peddler car, while freight generally was loaded in the peddler car on the day it was transferred, the car frequently did not run daily. Then, there were times when the freight was held at the transfer and not loaded until the day the car was scheduled to run. In either case, the car did not "peddle" until the next day after the freight reached the transfer. Also, "peddlers" frequently had so much work to do that shipments did not reach local stations until late in the day, with the result that the consignee did not get his shipment until the third day after the shipment arrived at the zone station. Outbound, once the consignor's shipment was at the local station it had to wait for the peddler car to pick it up. This might mean a wait of 24 to 48 hours. In any case, the shipment would arrive back at the zone station late in an evening, and the way car would not be worked until the next day. Short-haul business frequently was subject to these delays also.

TABLE I—TREND OF TRAFFIC VOLUME

	Forwarder Traffic	New York Central System L. C. L.	Big Four L. C. L.
1949 (Base Year)	100.0	100.0	100.0
1950	123.1	88.5	114.5
1951 (estimated)	133.1	97.2	128.4*

\* Actual for first five months of year

TABLE II—TONNAGE GAINS ON REPRESENTATIVE TRUCK ROUTES

Route	Av. lb. per day 1949*	Av. lb. per day 1950	Inc. or Dec. (+ or -) (lb.) '50 over '49	Av. lb. per day '51 over '50 (5 mo.)	Inc. or Dec. (+ or -) (lb.) '51 over '49
1	21,456	16,109	-5,347	17,533	-3,923
1-A	18,219	22,893	+4,674	27,821	+9,602
3	16,714	17,154	+440	23,339	+6,625
** (4)					
(4-A)	28,440	54,243	+25,803	63,922	+35,482
5	7,315	7,635	+320	7,513	+198
6	20,988	21,545	+557	25,301	+4,313
7	23,879	20,201	-3,678	17,176	-6,703

\* 1949 period ranges from 4 - 7 months

\*\* One route in 1949—made 2 routes Feb. 1950

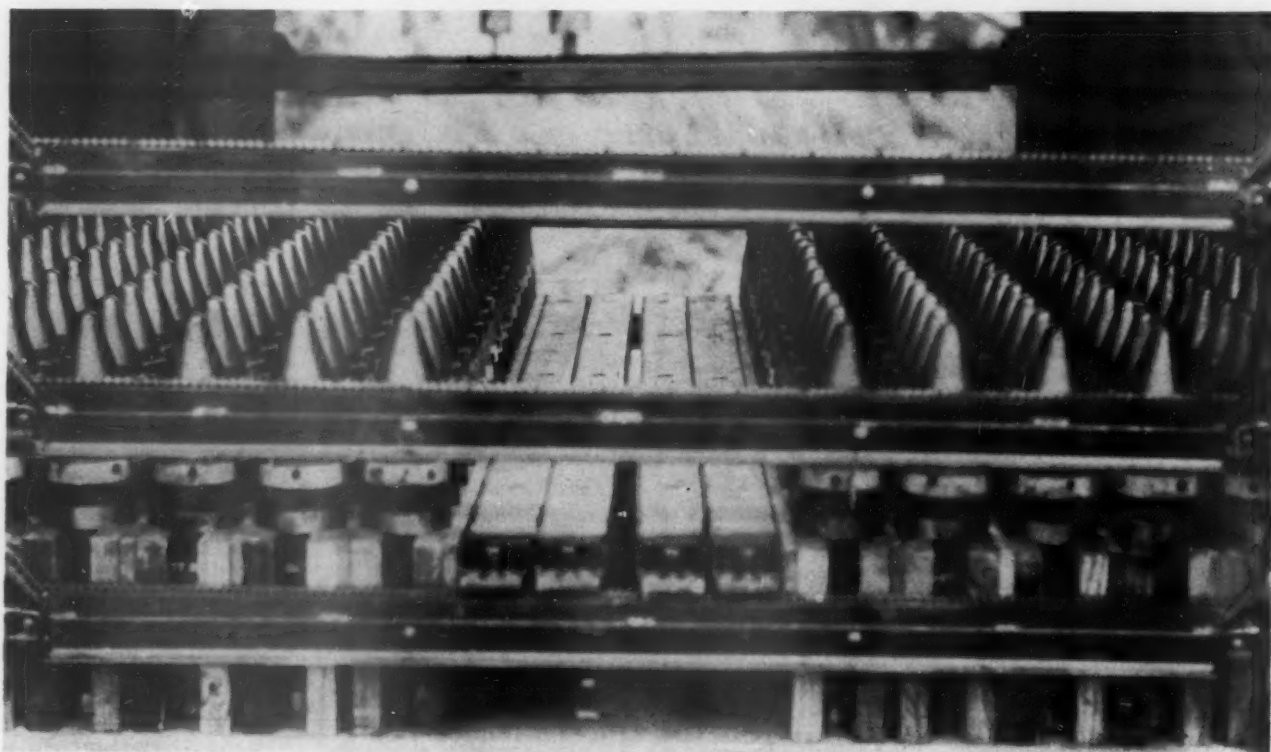
# Utility Loader Redesigned For the Navy

Special Utility Loader equipment is being built and installed in an order for 380 munitions cars for the United States Navy. This equipment, designed and built by the Evans Products Company, is a combination of the Evans Utility Loader and the Evans DF Loader and is a heavy duty installation built to meet Navy specifications which are more severe than required by commercial shippers.

During World War II the Utility Loader proved its load-protecting abilities in many shipments made by civilian shippers and in more than 1,300 cars owned by the Navy. The Utility Loader and its postwar counterpart, the DF Loader, brace the lading against shifting while in transit by means of adjustable cross-members which lock tightly into wall members, both of which are built into the car as a permanent installation. The new loader adapted to Navy needs comprises three fixed and six movable longitudinal belts which run the length of the car side walls from doorway to ends. These belts are supported on wide steel wall members welded to the side posts of the car frame. The tops of the belts are



Cross members, braced against collars on these bomb casings, are also used to separate one layer from the other. Wall "belts" can be used across doorways for through loading



Shells, loaded solid through the doorway, are protected against possible shifting while in transit. Note how four cross members are locked into doorway belts in the center of the car





In this difficult load of big bomb casings, cross members have been locked together, end to end, to provide continuous longitudinal bracing, and to provide support and separation for the second layer

1-in. wide steel with perforations characteristic of the Evans loader.

The cross-members are reinforced with steel Z sections with forged-steel end fittings which contain the downward projecting pins and spring locks for locking in the cross-members. The forged ends are also spring-locked on the cross-members so that they adapt themselves to the tendency of the side walls to bulge on impact.

Experiments have demonstrated that the three fixed belts should be placed one on the floor, another about 2 ft. above it, and the third about 3 ft. above the second. Ordinarily, the need for bracing the most common Navy loads comes somewhere within these three levels. But to provide adjustable features to take care of any possible Navy lading, the six movable belts are interspersed between and above the fixed belts. With this combination it is possible to get a vertical adjustment of 1 in. by moving the belts up or down and horizontal adjustments of  $\frac{1}{2}$  in., the distance between the belt perforations in which the cross-member end fittings are locked.

Before the new Utility Loader was finally adopted by the Navy, it was put through a series of exhaustive tests during more than two years. Early in 1948 the Evans Products Company was requested to redesign the commercial loader for additional strength to accommodate heavy Navy loads. The pilot model was turned over to the Navy and impact tests were run under full load. After the Navy had finished its tests, Evans was instructed to equip ten additional cars for testing in actual railway service. The following conclusions were

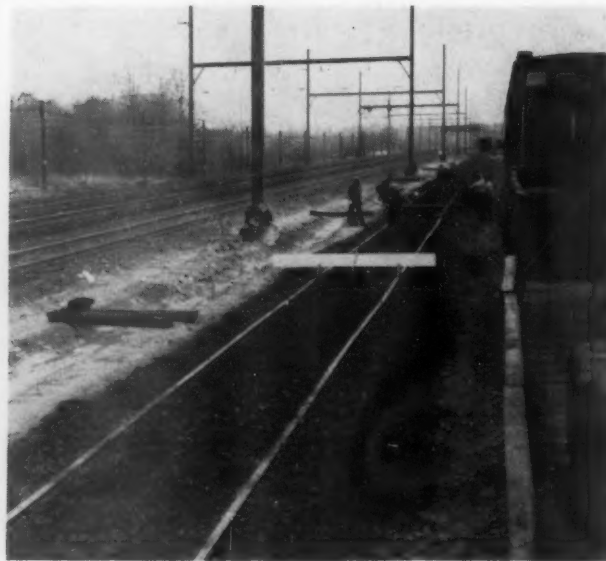
drawn from these tests: (1) The adjustable features of the Evans equipment accommodate any lading and permit cars to be loaded to capacity. (2) Light weight of cross-members and wall members speeds loading time and reduces fatigue of the loading crew. (3) Lading, irrespective of type, was delivered without damage, to both East- and West-coast points. (4) The lading equipment strengthens the car. (5) Simplicity of the equipment makes the car easy to load and unload with unskilled labor. (6) Elimination of conventional dunnage and the labor to install it effects a substantial saving; it also prevents damage to cars and expensive repair work. (7) Cross-members can be used to prevent vertical as well as horizontal movement of the lading. (8) If required, cross-members can be used to form a second deck, allowing roof-high loads. (9) Because of its wood-to-lading contact, the equipment has been approved by the Bureau of Explosives for handling ammunition.

The redesigned cross-members used in the Navy loader will withstand pressures up to 9,000 p.s.i. The new loading device is about 25 per cent stronger than the conventional Evans Loader.

During World War II large economies in dunnage otherwise required for the shipment of airplane engines are said to have been effected by the Utility Loader. On a shipment of plane engines from Detroit to Omaha the saving was \$977.44 per car by the use of the Utility Loader which permitted shipping the engines unboxed. In another instance the same type of cars made possible a saving of \$1,566.24 per car load of engines moving from South Bend, Ind., to Seattle, Wash.



At Glenlake, looking east where the Reading's Morrisville branch begins. Turnout from No. 4 main track to the branch and yard is a Number 20. Rail is 140 lb.



In the Glenlake yard a crew raises track. Ballast was obtained from abandonment of a stretch of No. 3 main (far left) farther north near Pennington, N. J.

## Reading Line to New U. S. Steel Plant Nears Completion

In order to participate in the traffic created by the building of the new United States Steel Company plant (Fairless Works) at Morrisville, Pa., the Reading is building, at an approximate cost of \$1,750,000, an entirely new branch line which diverges from its four-track New York branch at Glenlake, Pa. This project involves construction of 6.7 miles of new track by the Reading and trackage rights into the plant proper over a new 1.5-mile spur being built by the Pennsylvania. Work was started on the Reading construction early in May and is expected to be finished in December.

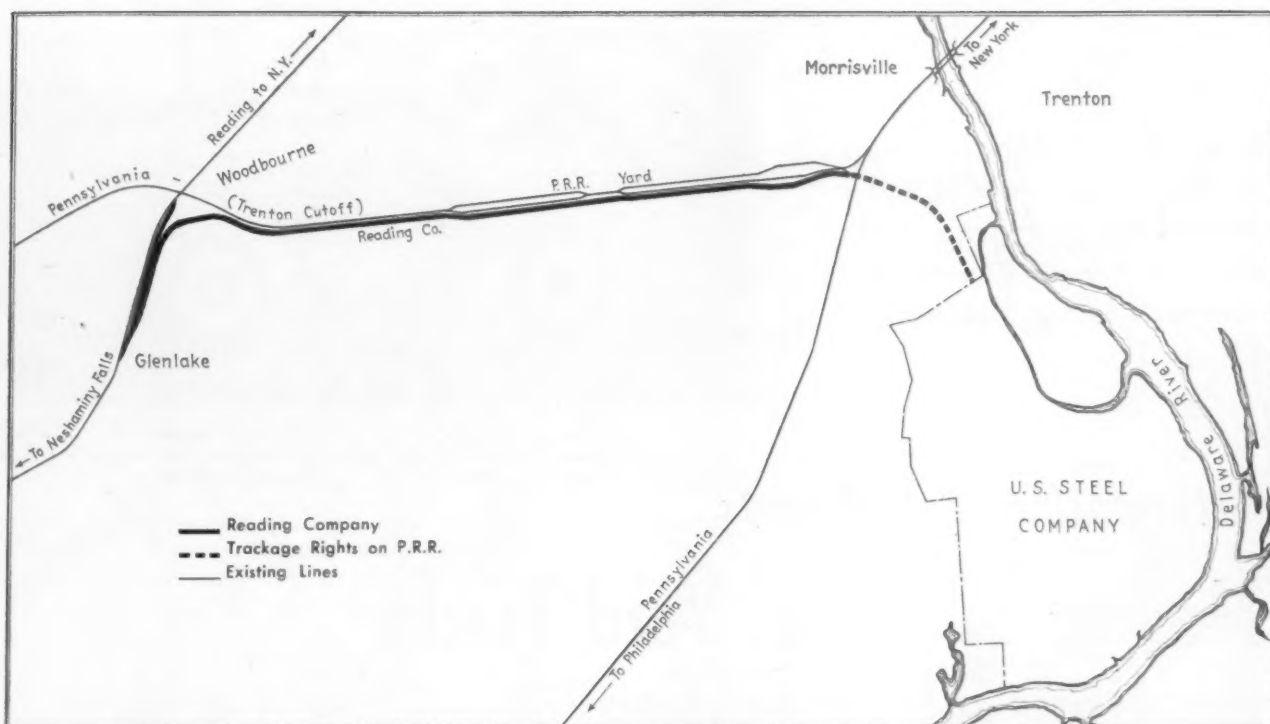
Traffic in and out of the steel plant will be handled

by diesel-electric locomotives, and it is expected that three trains will be operated in each direction daily. There will be a substantial movement of high-calcium limestone from points on the Reading in the Lebanon valley of Pennsylvania. The maximum grade is 0.5 per cent and the curvature 5 deg. (compensated), so conditions are favorable for motive power utilization with fairly heavy trains. Speed will be limited to 30 m.p.h. The new project has required rearrangements of the signaling installation on the New York line which, together with the signal work on the branch itself, will cost about \$173,000. The principal changes in the existing installation have been to provide for operation of



Glenlake yard has trackage for about 212 cars. Space is available to double the yard's capacity, when increasing business justifies it





Excavation of 325,000 cu. yd. of dirt was required on the branch, while 125,000 cu. yd. of fill were necessary. In this deepest cut on the branch 4,000 ft. of 18 in. concrete pipe was installed to drain the subgrade

the No. 4 track of the New York-Philadelphia main line in both directions for 5 miles between Neshaminy Falls and Woodbourne. This, together with a new crossover installed at Neshaminy Falls, facilitates movements in and out of the new yard built at Glenlake to accommodate trains to and from the steel plant. Initially the yard tracks will accommodate 212 cars, and space is available to double this capacity later. The yard has two car repair tracks at its east end near Woodbourne, with a small supporting shop.

Grading work on the Reading line was performed by J. D. Morrissey, Inc., Philadelphia, while track construction is being done by T. F. Scholes, Inc., of Reading, Pa. Rail, ties and ballast were obtained by removal from the main line near Pennington, N.J., where one of the four tracks has been taken out of service. Approximately 1,000 carloads of ballast were secured in this way for the new project.



Stored at Glenlake is 130-lb. relay rail to be trucked to location for installation. Ties laid on branch will be new, except that in the yard only one in three will be new



This bridge over the old Lincoln Highway near Morrisville is the largest element of the nearly \$200,000 spent by the Reading for bridges and culverts on this branch

**Rock Island adapts special machines to dispose of heavy deposit left in its large hump yard at Kansas City by last summer's record high water**



This is how the tracks in Armourdale looked after they had been opened up with a Jordan spreader but before the mud had been removed with the special machines

## **Aftermath of July Floods . . .**

# **Moving Silt from Yard Tracks An Unusual Operation**

Confront a railroad maintenance engineer with a washed-out bridge or piece of track and he knows exactly what to do to restore service in the shortest possible time. His know-how regarding the handling of such contingencies comes from long experience, for washouts are a common occurrence. But show him a large classification yard covered with mud to varying depths over the top of rail and he may have to do some head-scratching before an effective plan of action is forthcoming. That's so because rarely is such a problem encountered on a large scale.

In this, and other respects too, history was made in the Kansas City area during and following the record floods that occurred last July. Not only were railway tracks and structures extensively damaged by washouts, but several roads found, after the water had receded, that yard tracks in some cases were covered with heavy deposits of silt. One of the yards so affected was the modern 40-track hump-retarder yard of the Chicago, Rock Island & Pacific at Armourdale (Kansas City), Kan., in which the silt deposit ranged up to 8 in. over the top of rail.

Maintenance officers on the Rock Island whose responsibility it was to remove the silt were quick to realize that, although conventional equipment would be useful up to a point, the most economical answer to the problem depended on the adaptation and proper use of special machines. What they did was to obtain a Pettibone Mulliken Trak-Kleener and an Athey Force-Feed loader, which were put to work as a team for picking up and loading the silt into dump cars after the tracks had been opened up with a Jordan spreader. Although these particular units of equipment carried the major share of the burden of cleaning the silt from the tracks in the classification yard, it must be added that a variety of other types of equipment, mentioned later, was also found useful in helping to remove the accumulation of mud from the yard area.

The Rock Island's Armourdale yard extends generally in an east-west direction. Its most westerly unit is the

retarder yard in which the hump is located at the west end. East of the classification tracks are the receiving and departure yards, the main yard office, an engine terminal, a rip track and other facilities.

The high-water troubles in Armourdale yard started early on the morning of July 13 when the Kansas river, swollen by heavy rains in its watershed, burst through its dikes. All of the yard was soon under water, which kept rising until it reached within 18 in. of the crest of the hump. In the classification yard, or "bowl" as it is known locally, the water reached a maximum depth of 14 ft., and further east, in the direction of the river, it was even deeper.

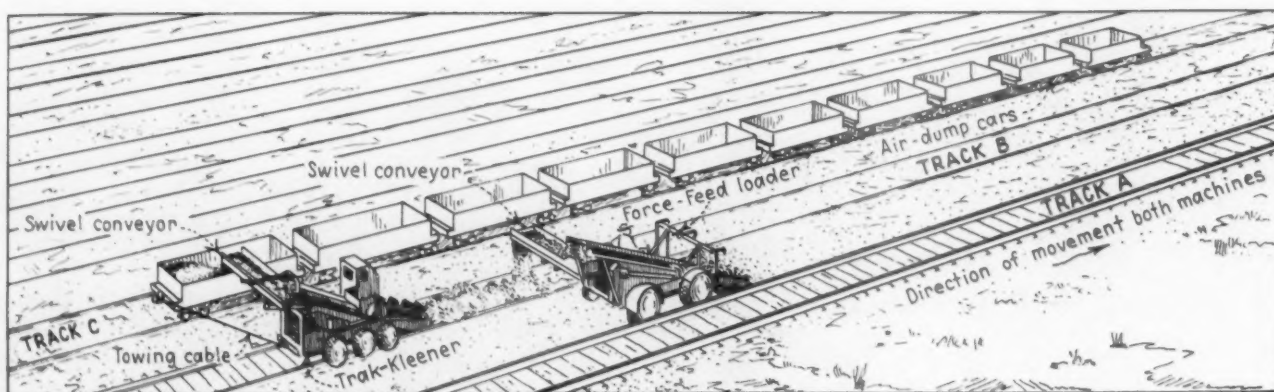
### **Yard a Shambles**

After the dikes broke it was four days before the water had receded sufficiently to permit the damage to be assayed and the rehabilitation work to be started. The yard was found to be a shambles. In the bowl the principal damage was a heavy deposit of silt. However, of the trackage east of the bowl, where swift currents prevailed, about 50 per cent was badly washed, and about a mile of the joint Rock Island-Union Pacific main line, which skirts the north side of the yard, was washed out to a depth of 3 to 12 ft. On the ground floors of all buildings there was a deposit of about 15 in. of mud.

An appalling amount of work was involved in restoring the yard to service. There were two principal aspects to this work, namely, (1) the restoration of tracks that had been washed out, and (2) the removal of silt, not only from the tracks but also from the building interiors and the areas around them.

To get the tracks back into service in the shortest possible time the railroad greatly expanded its labor force in the yard and also put to work every available piece of equipment that could be adapted to this work. At the peak of the restoration operations there were about 300 men at work, including a considerable number of clerical and yard-service employees who would





not be needed for their regular jobs until the yard could be restored to operation.

Practically all equipment used in the rehabilitation was engaged in silt and mud-removal operations. This equipment included six crawler cranes equipped with either clamshell or dragline buckets. Of these units three were owned by the railroad and three were obtained from contractors. Other equipment supplied by contractors included about 30 dump trucks, approximately 10 crawler tractors with front-end loaders, and about 12 crawler bulldozers. Also several wheel mounted tractors with front-end loaders were put into use primarily for loading mud and silt around the rip track and the machine shop.

Up to a point the silt-removal operations were simply a matter of bringing this material together in piles and loading it into dump trucks with the clamshells, draglines, or front-end loaders. In the bowl, however, this procedure could be followed only until the tracks were put back into service, after which the primary dependence for removing the remaining silt had to be placed on the Trak-Kleener and the Force-Feed loader.

One of the objectives of the rehabilitation work was to get the hump back into service as quickly as possible. The initial phase of this work was to open up the tracks with a Jordan spreader, plowing the excess material into the intertrack spaces. In the beginning this material was loaded into dump trucks by the front-end loaders, the draglines and the Force-Feed loader, but after the tracks had been placed in service the use of trucks had to be discontinued in favor of dump cars.

The north 11 tracks of the bowl were opened for service by July 22, and the hump was put back into operation on that date. The opening of the bowl tracks with the Jordan spreader then proceeded progressively across the yard until all classification tracks were in operation by August 5.

### The Machines Described

In the meantime the Force-Feed loader and the Trak-Kleener were put to work cleaning the remaining material from the tracks that had been restored to service. Both of these machines were purchased by the railroad especially for this purpose. The general principle of the machines is the same. Both are mounted on rubber tires and each has a mechanism at the front end for picking up dirt which is lifted by an inclined conveyor belt to a swivel-mounted conveyor at the rear of the machine. The essential difference between the two units, insofar as it concerned the work at Armourdale yard, was the fact that the swivel conveyor at the rear



In the vanguard (see perspective drawing above) was the Force-Feed loader which picked up the silt from the intertrack space and dumped it between the rails of the adjacent track. Except for three tracks occupied by equipment the yard was available for classification of cars while cleaning was under way



Rear view of the Force-Feed loader in operation. Following rains, when silt was too unstable to be handled by the machine, loading was continued with a clamshell bucket



Bringing up the rear the Trak-Kleener picked up the material between the rails, including that deposited by the Force-Feed loader, and delivered it to the dump cars



Rear view of the Trak-Kleener in operation. On occasions when the work-train engine was busy, the Trak-Kleener, by means of a towing cable, moved the remaining cars along

of the Trak-Kleener is of such height that material passing on to this conveyor from the inclined conveyor may be loaded into standard dump cars. Since the Force-Feed loader was not designed especially for track-cleaning work the swivel conveyor on this machine was not quite of sufficient height to permit the loading of dump cars.

For the track-cleaning operations at Armourdale yard a standard or typical operation was worked out involving the use of the Trak-Kleener and the Force-Feed loader as a team. For this 20 air-dump cars were used, of which half had a capacity of 20 cu. yd. and the other half a capacity of 30 cu. yd.

The typical operation required that three tracks of the yard be taken out of service. For the purpose of describing the operation the tracks occupied will be referred to as Tracks A, B and C (see accompanying perspective drawing). Working ahead of the Trak-Kleener, the Force-Feed loader would pick up the silt in the intertrack space between Tracks A and B and drop it between the rails of Track B. Moving along behind the Force-Feed loader the Trak-Kleener would pick up the material between the rails of Track B and deliver it to the string of air-dump cars on Track C.

When 10 of the air-dump cars had been loaded in this manner they were taken by the work-train engine to a tail track west of the hump for dumping. However, the absence of the work-train engine while moving the dump cars involved no interruption of the work, since the Trak-Kleener was found to have sufficient power to move the other 10 dump cars as well as to perform its regular operation. When the work train had left with the first 10 loads a cable was extended from the Trak-Kleener to the rear car of the remaining 10 empties. As the Trak-Kleener moved along Track B it pulled the string of air dumps along on Track C, filling the rear car first. When this car had become filled the cable was lengthened to permit filling the second car. The total length of the cable was such that three cars could be filled with the one connection to the rear car. When these three cars had become full the cable connection was made to the

rear end of the fourth car and the operation repeated.

The objective of the track-cleaning work was to remove the material between the rails down to the tops of the ties with the Trak-Kleener, and to remove the material in the intertrack spaces to a depth of 3 or 4 in. below the tops of the ties with the Force-Feed loader. Frequently it was necessary to make more than one pass of the machines to accomplish these objectives, sometimes as many as four passes being required. The quantity of material to be handled was one factor in determining the number of passes needed. Another was the consistency of the silt. During practically the entire time the yard-cleaning operations were under way rainfall was abnormally high. When the silt was wet it was more difficult to handle, and required extra passes of the machines. If several days should pass without rain the material hardened rapidly, also slowing up the work.

Sometimes following a rainfall the silt was so unstable that it was not possible to operate either of these machines until some drying had taken place. On these occasions the loading of the material from between the intertrack spaces was carried on with a crawler clamshell mounted on a flat car. When this procedure was followed the Trak-Kleener was used as a towing unit to pull the clamshell and the air-dump cars. Later on, when the material had dried out sufficiently, the Trak-Kleener would have to be operated over the same track again to pick up and load the silt from between the rails.

When conditions permitted the track-cleaning equipment was worked 9 hours a day, 6 days a week. A maximum of 33 air-dump cars was loaded in one day, with the average being about 27 cars. It was estimated that a total of about 50,000 cu. yd. of material was removed from the yard tracks with this equipment before the job was finished. Hampered as it was by frequent rainfall, the work of cleaning the yard tracks with the two machines was not completed until about October 1, and even then a considerable amount of finishing work remained to be done. In fact, in view of the unfavorable conditions that prevailed, it was frequently necessary to resort to manual labor to clean the mud from the tracks.



# Making Salesmen On the Soo

The Soo Line is seeing to it that its freight customers cannot properly criticize it (1) for erecting an artificial barrier between its freight salesmen and the employees and officers who make and quote rates; (2) sending salesmen out calling without a solid comprehension of the railroad's plant, the major points it serves and its train service; or, (3) assigning salesmen before they have a reasonable working knowledge of rate territories, the freight rate structure and charges for, and availability of, ancillary services like transit storage and diversion and reconsignment.

The Soo is a 4,000-odd-mile railroad in the upper Midwest. It is an "average" road—big enough to furnish room to experiment; not so big as to make administration difficult or "sticky." More than 43 per cent of its tonnage comes from connecting lines and a large portion of this must be sought after. Currently the Soo employs 55 salesmen for freight plus 35 general agents.

During World War II the Soo lost some of its most valuable traffic personnel. Routine retirements under its pension plan subsequent to the close of the war took away more of its most valuable men. Furthermore, many of the younger men in the traffic department were off in military service during the very phase of their careers when they should have been getting the proper education for sales work; there was no time to repair this damage when they returned to work. Finally, those men who had been hired during the war had, in view of the pressure for output, to be put to work at once without regard to placement to achieve maximum learning progress.

Early in 1948 a definite, systemwide program was set in motion to overcome both the infirmities resulting from the past and to insure well-trained salesmen and supervisory officers for the future.

## Hiring New Men

First, a complete canvass was made of all the road's solicitors, with an analysis of individual background and estimate of weaknesses in training and experience. As a result, a plan was set up to "fill in," so far as practicable, the experience of the promising men to fit them for more responsible sales positions. Thus, several young off-line solicitors and office personnel were transferred to posts on-line. Conversely, some on-line men were moved to off-line agencies and traveling jobs—to round out their experience.

At the same time, to develop good men for the future, a new hiring policy was established in the traffic department in the general office at Minneapolis. Under this plan, the chief clerk in the Rates and Divisions division gives applicants the first interview and weeds out the



A 4,550-ton fast freight on the Soo, near Lake Villa, Wis.

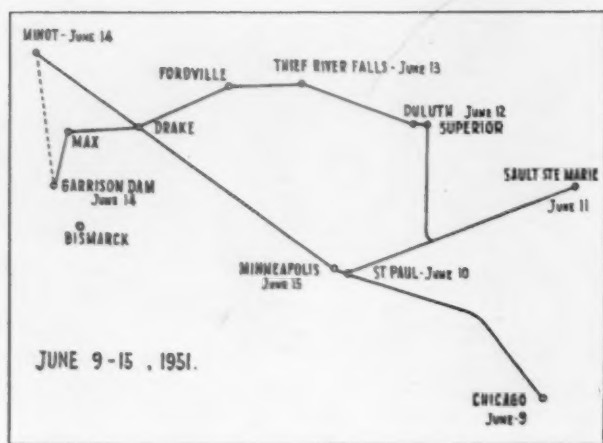
obviously unfit. The promising ones are then referred to the chief clerk, Sales and Service division. After both chief clerks agree on a man, he is further referred to supervisory officers in both the rates and sales divisions of the office for final approval. By this means, the road believes, it is better able to start off men who appear to have qualifications in both phases of traffic work.

Once hired, a new man has to be trained properly. To the Soo that means: "being familiar with all phases of work in a general traffic office." W. W. Kremer, vice-president—traffic, decided to use two positions as vehicles for all-around training—that of general clerk and a newly established position with a kind of "roving assignment" within the general traffic office.

Obviously, these positions would have to be excepted from contract requirements. Officers of his department spent an entire afternoon with representatives of the clerks' brotherhood, during which they set forth the advantage which the entire Soo organization would gain from having well-rounded men to sell its services in the future, and the absolute necessity of training them outside the routine channels of seniority. They argued that the union members themselves would gain, because the essence of the plan was to build up men from within the ranks of the Soo, so that it would not be necessary to hire outsiders. The union agreed to establishment of the two positions as Schedule C jobs—to be filled, without regard to seniority rights, by candidates for solicitation positions.

The excepted jobs were set up in August 1949. One, with title "general clerk," is comparable in rank (though not in duties) with the job of head tracing and diversion clerk. The other, with title "assistant to chief clerk—sales & service" ranks just above the head tracing clerk. Both positions report to the chief clerk of the Sales and Service division, who is required to report periodically on the progress made by incumbents. In addition, at reasonably regular intervals, each trainee is interviewed by an officer of the Traffic department to review his problems and rates of progress. As a result of these "check-ups" particular care is taken to give the trainees duties which will fill out weaknesses of background; within reasonable limits, no short-term consideration of "getting a job done" is allowed to interfere with the long-term goal of a well-rounded education. Present incumbents of the training positions are aged 28 and 24, respectively.

Another part of the Soo Line's program is a methodical



Some 60 Soo Line sales representatives took a 6-day "school on wheels" tour last June, starting from Chicago and ending up in the headquarters city of Minneapolis

education of all its existing solicitation men in the points they have to sell and to fit them to deal with the questions their customers are likely to ask. What better way to attain this end than to combine the merits of the so-called inspection trip with full-scale classroom instruction? Learning at the point of contact is better than "ivory tower" teaching. Furthermore, the students can go to the teachers—practical operating officers, talking on "home ground."

#### Six-Day Tour

Hence, for six days, 60 sales representatives from both off- and on-line offices of the road were put through an unusual combination of touring, lectures, question-and-answer sessions and social affairs by which to increase their knowledge of railroading in general, and the Soo in particular. During the six-day tour, the "students" covered more than 2,500 miles of the Soo—most of its main stem—as shown on the accompanying sketch map prepared by the road's employee magazine, *Soo-Liner*. Plans for the trip were made by Mr. Kremer with officers from both the rates and service sections of his department. Division operating officers did most of the "teaching" at the stop-off points, while officers of the traffic department carried on lectures and discussions in transit on the two sleeping and two business cars which made up the special train.

The participants were provided a specially-prepared loose-leaf text book containing miscellaneous subjects for discussion—such as facilities at individual yards; interchange arrangements in the Chicago and Twin City terminals; operating details of individual freighthouses; and complete terminal maps. In addition there was distributed a detailed study of iron ore sources, traffic and handling in the Lake Superior district, with particular reference to Soo Line participation in the movement and future prospects. Useful also to the salesmen on the trip was a reprint of 21 Soo Line advertisements in local newspapers and in national magazines read by shippers, each of which was devoted to the commerce and industry of a town along the Soo.

The "school on wheels" started out on June 9, 1951, at Chicago, and ended with a visit to the general office in Minneapolis and luncheon given to the salesmen by President G. Allan MacNamara on June 15. The top officer in charge of each department of the railroad was

present at the latter affair. Points inspected en route included ore and grain transshipment facilities at Duluth; international interchange facilities at Sault Ste. Marie; Garrison Dam, at Riverdale, N. D., the world's largest earth filled dam now under construction (which has exclusive Soo Line access); lignite mining operations in North Dakota; the Soo's Shoreham shops; and the Chicago terminal district. The students also attended a luncheon given in connection with the Duluth Chamber of Commerce.

#### What They Reported

Each salesman participating was asked to write a letter summing up the value of the trip-and-course to him. Almost every "student" indicated that his chief gain was strengthened confidence in selling the railroad because he knew the advertised service could be, and was, delivered. Almost every one volunteered the opinion that the operating officers and supervisors of the railroad are "traffic minded"—indeed, to a degree which astonished many of the solicitors.

How well operating officers entered into the spirit of the tour is illustrated by an incident at Duluth. A question-and-answer session in the afternoon indicated to the general superintendent of the railroad that some of the salesmen had not had personal contact with the various types of railroad equipment, their fitness for various types of lading and accessories for loading and unloading. As soon as the session ended he gave instructions to his local staff. When the party got up early next morning, buses took them to nearby Superior, Wis., where there were lined up a sample of as many different types of freight cars as could be gathered in the locality, with carmen available to explain their features, and with full opportunity for the freight representatives to climb, crawl, feel, and look. As a result, every Soo Line salesman knows how an ore car unloads and what keeps the rain out of a covered hopper.

#### "Trafficscope"

For their continuing education, every employee of the Traffic department of the Soo, in all offices—including every local station agent on the road—has been provided a copy of a 56-page volume titled "Trafficscope," compiled under the personal direction of Mr. Kremer to give those who deal with freight shippers and receivers a broad acquaintance with the Soo Line, the rate structure, the major economic divisions of the country; and the Interstate Commerce Act.

Chapter I sets forth the organization of the Soo and some "traffic tips" peculiar to the road as an important carrier of traffic interchanged with the Canadian lines. Chapter II is an historical sketch of the road. Chapter III sets forth its traffic in terms of volume, dollars and commodities. Chapter IV is an introduction to the Consolidated Freight Classification. Chapter V outlines the rate territories and fundamentals of class, commodity and exceptions rates—together with the administrative machinery for the establishment of rate changes. The following chapter sets forth the most important factors in regulation. The manual closes with an 18-page glossary of terms most commonly used in freight traffic.

For the future, the Soo Line Traffic department is working on a plan to send to its sales forces informational literature dealing with every phase of the railroad business. It is also asking representatives of other departments on the Soo to write up descriptions of their duties and responsibilities to enable salesmen to use their specialized knowledge to the best advantage.



## E. Grosvenor Plowman . . .

(Continued from page 77)

heavily loaded trucks do greater damage to highways than the faster but lighter automobiles. Critics of truck transportation may be heard in the United States saying that the passenger automobile does not require as high a standard of construction nor such expensive maintenance of highways as does the truck. Thus the generalization which I have heard applied to the Pennsylvania Turnpike, rightly or wrongly, is that the passenger automobile contributes toward the cost of maintenance of a highway for the trucks that use the turnpike.

### "Absurd Conclusions"

These over-simple generalizations lead to an absurd conclusion. The Pennsylvania railroad, in accordance with this absurd idea, should give up its passenger services across Pennsylvania and should reduce the cost of its railroad track, signals and other operating devices and procedures to the standard required for freight transportation. At the same time, the Pennsylvania Turnpike should become exclusively a highway for passenger automobiles, thus eliminating the expense of maintaining a roadway for freight movement. There is no doubt in my mind that this generalization is absurd, but there is likewise no doubt that traffic managers such as ourselves cannot disregard these two problems:—(1) the passenger deficit, and (2) use by heavy trucks of the public highways.

Railroad passenger transportation in the United States continues to be carried on to some extent in the competitive spirit as between railroads. We are very proud, as Americans, of our fine trains that result from this drive on the part of one railroad to excel another in comfort, speed and convenience. I am very much in favor of competition whether it be between carriers of the same or different types or between manufacturers and between distributors of goods. However, one would be blind if he did not recognize the disadvantage to the carriers and to the public of operating duplicative passenger trains in competition over parallel routes and both at less than a fair profit to the carriers. Inasmuch as passenger train operation at a profit is almost entirely dependent upon having a large number of passengers ride a particular train, it would seem that the time has come for American railroad management to review competitive passenger train operations.

### Competition for Passengers

Somewhat the same observation may be applied to competition between railroad passenger service and passenger service offered by other modes of transportation. The four great competitors of the passenger train are the commercial airline, the intercity bus, the common carrier truck which carries mail, express and other head-end traffic, and—most of all—the passenger automobile.

It is a regrettable fact that there are passenger trains operating in the United States today on which the members of the train crews rival in numbers the fare paying passengers. Of course these are extreme cases. It seems desirable that the operation of the basic economic law of supply and demand, of cost versus return, gradually and ultimately will eliminate the least profitable trains, and that the sound principles of economics not be set



"Railroad men are often heard making statements to the effect that the passenger portion of the Pennsylvania Railroad four-track line across Pennsylvania is unprofitable; that it is paid for in part by the earnings of the freight trains operating over the less expensive freight tracks. . . .

"... over-simple generalizations lead to an absurd conclusion. The Pennsylvania Railroad, in accordance with this absurd idea, should give up its passenger services across Pennsylvania"

aside by the refusal of regulatory commissions to permit such abandonment in response to clamor of those who do not patronize the trains, or use them only in emergencies.

It is essential to review and consider the effect of regulation. Railroad executives contend that regulatory actions, to some extent, retard and prevent the proper adjustment of their remaining passenger services to actual economic conditions. It may also be regulatory inflexibility which makes increasingly difficult progressive experimentation—for example, low fares attempting to recapture passenger traffic. In addition, regulation of passenger traffic on railroads has recently dealt with the engineering and procedural aspects of speed. I refer to the orders of the Interstate Commerce Commission applying maximum speed limits conditioned upon the quality and type of track and signal system.

Because volume passenger traffic cannot be attracted back to railroads, except at speeds higher than that obtainable by passenger automobiles on crowded roads, this signal-speed order is of great importance because of its relation to the capital cost of improvement of railroads to the necessary standards. To restate, some railroads undoubtedly will choose to abandon all further attempts to maintain passenger service competitive with other forms of transportation, rather than undergo the expense of upgrading signal systems and track structures to meet regulatory requirements for operation at the higher speeds.

Turning now to the highway situation, we may consider the problems of over-the-road truck movement of freight from the same four viewpoints. Competition between the numerous for-hire trucking enterprises is intense. This competition undoubtedly results in making truck runs under conditions of excessive cost as compared to return. This, in turn, is something of which we Americans can be proud. It has resulted in unrivaled truck service at low freight rates.

At the same time for-hire truck operators of the United States find themselves in strenuous competition with other forms of transportation. The private over-the-road truck is a formidable competitor and one of growing importance. Its operations provide a cost basis that is sometimes difficult for truck carrier enterprises to

meet or even to approximate. For-hire trucks also compete vigorously with the railroads and, to some extent, with water carrier and air carrier operations. As in the case of passenger service we may expect the economic laws of supply and demand, of cost versus return, to bring about an ultimate balance or adjustment between the availability of carrier trucking versus other forms of transportation.

Regulation must likewise be considered. The degree and extent of truck operation has increased. It is becoming more and more difficult for truck operators to obtain public franchises to enter into new fields or to extend their competition into new fields or new geographical areas. Finally, trucking of freight over highways is encountering more and more effective regulation built upon sound principles of engineering, particularly the engineering of the highway itself. Among the problems thus developed are the overloaded truck, the improper distribution of weight, the pumping or blowing of the subsurface of highways, the replacement of culverts or bridges broken or overburdened by trucks, the protection of the roads by signals or traffic lights and better policing, and of regulatory rules implemented by intensified enforcement.

Let us take truck-overloading regulations as a case in point. Trucks may be overloaded in two ways. One or more axles may be transmitting to the roadway a weight in excess of the axle limit prescribed in a particular state, or a total weight of the vehicle and lading may exceed the gross vehicle weight limitations applicable under state law.

The first type of overloading may come about because of the difficulty of distributing the load. This often happens when the freight is in a few very heavy packages or pieces. The second usually results from an attempt on the part of the trucker to add to his gross revenues by carrying more than the law allows. I submit that carriers in the interest of self preservation should control each type of overloading.

### **Public Is Aroused**

The public is becoming much exercised over mishaps due to overloaded trucks. The disintegration of highways is usually not as dramatic—nor as immediately consequential—as the destruction of a bridge or culvert, but each type of destruction is important to the public as a whole. Unfortunately, the body politic is having called to its attention many instances of each type.

These destructive effects, whether directly due to truck movements or the result of roads being overaged or under standard, are nevertheless serving to accelerate the currently rapid pace at which legislatures are approaching law revision to increase heavy truck license fees, increase motor fuel taxes and increase penalties for violation of the state weight laws.

Highway carrier interests are just beginning to realize the powerful force of public opinion and that it is fast running in opposition to their operations. Undoubtedly some blame attaches to the trucking industry. One bad egg may cast question upon the value of an entire crate or even a truck load of eggs. There have been too many

## **Alvin W. Vogtle . . .**

*(Continued from page 77)*

power. The Interstate Commerce Commission cannot be fairly blamed for the depressed financial status of the railroads, which inescapably affects all transportation.

The 1950 rate of return for Class I railroads would have been 5.23 per cent if the loss of \$558 million in passenger and less-than-carload services had not occurred.

Certainly rates should not be cut to destroy a competitor. This procedure ignores the congressional mandate that every type of carrier has a place, and that public policy contemplates that each type of carrier should fit into its economic sphere for the best possible service at the lowest reasonable cost. While competition must not be eliminated, there should be no wasteful and destructive competition.

Nor is there any justification for adoption of the railroads' rate system by other types of carriers, as the very reference to inherent advantages assumes an independence in the rates. Respective costs and service advantages or disadvantages should be reflected in the several rate patterns.

Not only are all too many rates substantially below the reasonable maximum level prescribed by the commission but there are other low rates here, there and elsewhere to meet market competition, water competition, potential competition, etc. Likewise there is dissipation of income in unpublished Section 22 rates, although it was represented to shippers in the several years' campaign for repeal of land grant rates that pay-

ment of normal rates by the government would lighten the load on other patrons.

All of this means that the rail backlog traffic is burdened again and again with ever higher freight rates, not only to cover increased operating expenses, but also to support this extensive system of special rates, transportation inefficiencies—which are readily susceptible to correction—and outright losses of billions of dollars which I will detail later.

Railroads have improvidently kept themselves poor for forty years by reduced water competitive rates through exceptions to the Fourth Section. Observance of the Fourth Section would greatly increase earnings. The I.C.C. has found that water service is worth less than rail service. It is slow and a high minimum loading is required for barges. The coastwise service has been in a tremendous decline. So the charges of this less valuable water service should not be permitted to depress rail rates.

Another important consideration in observance of the Fourth Section is the benefit to rail carriers through development of the largely farming intermediate local territory. An industry served exclusively is a permanent asset. The development of small towns is vastly beneficial in that it combines industrial payrolls with farm security. But the lower rates at the further competitive points now serve as a psychological road block, both to the prospective industry and to the interior communities.

Many of the subnormal rate levels were established years ago. A number of them reflect influences of the depression years. In a great many cases conditions influencing the original reductions no longer prevail. Fur-



cases in which truckers have disregarded the rights of the public by overloading or by such things that even more directly affect the public mind, such as hogging the highways and making it difficult for Mr. John Q. Public to enjoy driving his automobile. It seems to me that it would be wise for the industry to formulate rules for self government and live by them.

### Good Neighbors

I would go even farther and suggest that those interested in highway carriage would do well to keep trucks off the highways to the greatest extent possible during the periods of heavy automobile traffic, for instance, over Sundays and holidays, and perhaps even during entire week-ends and certain hours of each day. This is a dispatcher's job. I have never been a truck dispatcher but I can't help but believe that by careful analysis the dispatchers could bring about a great deal of improvement in this respect and might even, through avoiding overtime rates, reduce operational costs.

If railroads have not been able to escape operational regulation, even though they operate on private rights of way, how can the trucking industry hope to do so when it must operate on the same public highway as the school bus, the ambulance, the fire engine and the private automobile? A heavy dose of self discipline seems to be indicated.

If I have seemed to rest a somewhat heavy hand upon the trucking industry in these last paragraphs I hope it will be understood that this is not in an entirely critical



"If railroads have not been able to escape operational regulation . . . even though they operate on private rights of way, how can the trucking industry hope to do so when it must operate on the same public highway as the school bus, the ambulance, the fire engine and the private automobile? A heavy dose of self-discipline seems to be indicated"

vein. The trucking industry is a relatively new one which is seeking to find its field of service. Its operations and growth have been and will continue dynamic.

These problems are not those of the carriers alone but of traffic men in industry as well. Out of our consideration of those problems can come assistance in obtaining good services at fair prices.

thermore, we now suffer a shortage of all forms of transportation. In this situation, simple business logic directs that transportation facilities should not be employed in unremunerative service. The common carrier in good sense should abandon money-losing traffic to protect the general rate structure and prevent needless waste of revenue.

The restoration of normal rate levels should be step number one in providing for the revenue needs of transportation agencies.

There are appalling out-of-pocket losses, which exclude any return whatever on investment, in railroad passenger and less-than-carload services. These losses have grown each year and total a staggering \$2,271,000,000 for the past five years.

If the objective has been to freeze out trucks, buses and air lines, it has been a ghastly failure and terribly expensive to other patrons of the railroads, who are burdened with higher charges to cover these losses. Profitable carload freight is being denied transportation and forced to other means of transport because thousands upon thousands of box cars are being squandered in this wasteful light loading, money losing, l.c.l. service. . . . These continuing annual deficits are so large that they have become an intolerable burden on the users of freight service.

The passenger deficit is a composite figure, combining passengers, express, baggage and mail. The passenger problem might well be joined with that of transporting small shipments. This handling of small shipments by railroads needs a basic reorganization. Ordinary freight service for less-than-carload traffic is simply too slow. It has been suggested that transfer

from slow-moving freight service to fast-moving passenger service might be the answer, with the Railway Express Agency providing for pick-up and delivery. Much of the present express traffic could go over to parcel post without any service impairment. Railroads would be entitled to a profit on this traffic transported as U. S. mail. The balance of the traffic could be taken care of by railroads through reorganization and expansion of their baggage service, which is running at a loss. . . .

### Potential Car Savings

A study of some months ago revealed potential savings of 111,494 cars per week through improved handling by railroads and patrons. This would result in ample transportation for all and increased revenue for railroads. Emergency orders of the Defense Transport Administration are bringing about some heavier loadings, but I propose permanent correction through immediate change in out-dated minimum weights not suited to the large, strong car today. We would profit immediately and tremendously if we reestablish the cost reducing and car creating efficiencies of World War II. This heavy-loading, quick-loading and quick-unloading program had its inception in the necessity of getting by in the desperate early days of World War II with then available transportation facilities, so that critical materials might go to armaments and not into production of additional transportation equipment.

Shippers enjoyed maintenance of prewar transportation charges throughout World War II, despite very large increases in railroad costs. Since abandonment of that program there has been a severe countrywide shortage

in transportation and rail freight rates here in the South have been increased more than 60 per cent.

Transportation improvements can be attained at once if we apply all our energy and specialized talent. More efficient utilization of plant capacity will not only materially increase carrier earnings at existing freight rates but also assure enough transportation for both war traffic and commercial traffic. If there should be a protracted transportation shortage, the ordinary shipper would suffer business disaster.

We should also join in similar studies with other forms of transportation. What could be more worthwhile than again to earn these rewards through restoration of these efficiencies? We simply cannot continue the waste in hauling 25 to 30 tons of freight—much less in less-than-carload traffic—in 50-ton cars; and insist on priorities for steel to build additional cars, likewise to be loaded to half capacity, when the existing car would accommodate both loadings. Capacity loading should be the rule. Higher freight rates should apply to the exceptions.

The public will not enjoy the maximum benefits of transportation services utilizing the most suitable features of each form until there is fair-minded consideration between carriers and shippers, and among the carriers themselves, instead of the present suicidal competitive

practices among the several modes of transportation. I assume it is the feeling of railroads that they are justified in this destructive course because of alleged subsidized competition. This presupposes that eventually some final balance will be reached through survival of the fit. But if, as alleged but controverted, there are government subsidies in aid of trucks, buses, barges and air lines, and the enormous railroad losses are added to the freight bill of other rail carload traffic (which amounts to subsidy in fact if not in name), then this can go on and on until the carload shipper breaks under the mounting load of increased freight charges. Meanwhile, the policy is forcing more and more of the normal rail traffic to other means of transportation. . . .

There is a wide field in which competition can be reasonable and desirable. But those limits have not been respected and consequently competition has become wasteful and destructive. The various agencies of transportation have sought traffic indiscriminately, including that which some one of the several other types of transportation could handle far more efficiently and economically. This has resulted in rates in the highly competitive channels being too low and those in the noncompetitive channels being too high. This is the wrong approach. Adjustment to the law requires calm and fair consideration. A constructive solution should be sought through

## B. Brewster Jennings . . .

(Continued from page 76)

on regulated rates, they may select one which is, in a true economic sense, inherently less efficient than another.

Perhaps it is just because I don't like to see anything done the hard way, but it seems to me that we must constantly strive to bring about the most efficient development of everything that materially affects the cost of an article or service to the ultimate consumer. So far as transport is concerned, maximum efficiency can be obtained only if the most suitable method is used, having in mind all relevant factors.

Therefore, the true long-range interest of the consumer is best served only when the shipper can base his choice of transport on fundamental economic considerations.

Unfortunately, however, there is a tendency at all levels of government to increase regulation of transportation. Much of the agitation for regulation appears to be inspired by carriers that apparently wish to equalize the competitive ability of the various media. That is a dangerous path. It gives aid and comfort to those in government who want to move toward socialism. It slams the door on basic economics. Mankind cannot have the benefit of the most efficient use of facilities when artificial restraints are imposed to equalize competition. We never would have had the motor vehicle if its progress had been regulated according to its effect on the blacksmith, the harness maker and the horse breeder.

The oil industry, I believe, has been able to apply basic economics to a much greater extent than general shippers. This is because the oil industry developed its own transport and because a substantial portion of its

transport has been relatively free of regulation. If the pipeline, the barge, the tanker and the tank truck had been under the thumb of government, we could not have developed our efficient and economical transport system.

Oil men do not necessarily have extraordinary talent for transport. But early in the game they were faced with novel and hitherto unsolved problems, and operating as they were in a relatively free economy, unhampered by government regulation, they were able to put in practice the ideas which developed in response to the needs of the situation. I have no doubt that others would have done as well or better under the same circumstances.

If it is true, as I believe, that oil transportation is by and large more efficient than the national transportation system for general merchandise, it is so because of the integration of transport with the rest of the industry and because oil men have a greater freedom than other shippers to select forms of transport according to basic economic considerations.

Though to some extent the efficiency of oil transport is due to certain factors inherent in the oil movement and not evident in other fields of transport, I believe that helpful ideas for the solution of general transportation problems may be found in petroleum transportation.

First off we would see that within an oil company the various media of transportation are regarded as complementary. Within an oil company you don't see, for example, pipelines and barges regarded as inherently entitled to an equal footing, and the proponents of each fighting the other. Instead there is an understanding and acceptance of the fact that each is supreme in its field and the smart thing is to use each accordingly.

Then we would see that the oil company traffic man is able to work primarily with basic economic costs and only secondarily with regulated rates.

All of the forms of transportation are essential and



a sane approach by the leadership of the several transportation agencies. . . .

In the public relations sense, there definitely should be more restraint from extreme or hostile expressions against other forms of transportation. This contemplates no impairment in active competition. In fact, it could well be that beneficial competition will thereby be intensified. . . .

There is more shipper objection now than in many years to freight rate increases. This is because of the many money-losing services continued year after year by railroads at the expense of their profitable patrons. The attitude of shippers is hardened because railroads fail to take advantage of many readily attainable cost reducing efficiencies.

I propose that the I.C.C. call a prehearing conference in connection with this renewed railroad application for a blanket freight rate increase, so that there may be discussion and examination of the means of increasing railroad revenue without a rate increase. Among these are maximum utilization of railroad facilities through heavy loading, quick loading, quick unloading, etc., and a correction of present money-losing transportation services either through: (1) greater efficiency, (2) increased charges, or (3) abandonment of services.

One thought I advance as an incentive to heavy load-



ing is to eliminate the present Ex Parte 175 increases on cars loaded to capacity, but to require payment of the full 15 per cent increase, now sought by the railroads, on cars not fully loaded. I urge every traffic manager to study this suggestion with his sales and purchasing departments.

are complementary. In my opinion, it would be well to give greater recognition to that fact and, then, to figure out what we can do to let basic economics decide which form is best for a particular job.

I believe that shippers, transporters and the public all would be better off if each form of transportation were used where and when and to the extent dictated by fundamental economics. If we do not work in that direction, there is likely to be the continued piling of regulation upon regulation as one uneconomic move is counterbalanced with another uneconomic move.

If artificial barriers to the most efficient use of our transportation system are stripped away, there will be, as I see it, an increase in competition of the kind which reduces costs to the ultimate consumer. If the opposite direction is taken, the public will get stung. When one form of transport is used for a movement that another form could do more economically, the public pays the bill in one way or another.

Removal of artificial influences on the choice of method would mean, I believe, opportunity for more active competition within each method. This would be so simply because elimination of artificial influences could not be accomplished unless there were less regulation. There still would be competition among the various forms of transport because they would compete for business in which no one form had a marked economic superiority. This would all add up to competition which would help shippers, receivers, the public and transporters.

There are obviously plenty of obstacles to the achievement of the general objective. One of these is, of course, the tax system as it has developed over the years. Another involves the investment in and maintenance of some of the facilities used. For example, the right-of-way of the railroad represents the company's investment and it is taxed as real property. By contrast, the right of way of the truck or bus represents an investment by

town, county, state or federal government, paid for in whole or in part by taxes levied on gasoline and the vehicle. The airplane utilizes the air which is still free, but the terminals are for the most part built and operated by municipalities, and the complex system of traffic control, airway beacons and so forth is provided by the federal government free of charge. Ships and barges use waterways and ports, and aids to navigation, most of which are provided by government, at no cost to the user.

Difficult though such barriers are, I doubt that the job is impossible. Certainly those of us who believe in dynamic competitive enterprise should not wish to admit that any task involving fundamental economics is beyond our scope.

The first step, as I see it, is to discourage any further efforts by federal, state or local government or by competing media of transportation to impose artificial barriers to the best economic use of transportation.

The second step would be to work to eliminate any present rates and regulations which are not necessary to assure good service to all shippers on equal terms at reasonable rates. This would include, of course, the removal of any regulations which seek by artificial means to equalize competition among the various forms of transport.

The third step would be to study how each form of transportation could serve best if it were stripped of artificial burdens and artificial advantages. This would involve determining the approximate relative economic costs and values of our principal forms of transportation for various types of movement.

Such a study would require a great deal of effort by men with a long range and an unselfish viewpoint. The question, however, is not so much whether we can spare the time and effort, but rather whether we can afford not to do it.



Engineman (left) uses his radio while seated at cab window. Yardmaster (above) uses radio to talk to enginemen or switching crew

## How the Union Railroad Saves Time with Radio

*Installations of two-way equipment on locomotives and in yard offices, in dense industrial areas around Pittsburgh, produce better coordination of switching movements*

To effect closer coordination of industrial switching movements in two important areas on its line in the vicinity of Pittsburgh, the Union Railroad has installed two-way radiotelephone equipment in six 1,000-hp. single-unit diesel-electric switching locomotives and one yardmaster's office. The road is placing similar equipment on 13 more locomotives, in a second yard office, and at a remote-control point in another switching area. The use of radio in other areas, as well as in main-line train service, is being considered.

### **Switching and Interchange**

The Union is a 38-mile freight carrier, and operates no passenger trains. It performs general switching and bridge service between other roads and industries on its line around Pittsburgh; and interchanges with the Baltimore & Ohio, the Unity railways, the Bessemer & Lake Erie, the Pennsylvania, the Montour, the Pittsburgh & West Virginia, and the Pittsburgh & Lake Erie. There are seven principal industrial switching areas on the road. These are, from north to south: Edgar Thomson, Monongahela Junction, Duquesne, Rankin, Homestead, Irvin and Clairton. The first six locomotives to be equipped with two-way radio are in operation within a radius of three to four miles in the Rankin-Homestead area, which extends along the Monongahela river in approximately the middle of the railroad. Steel-manu-

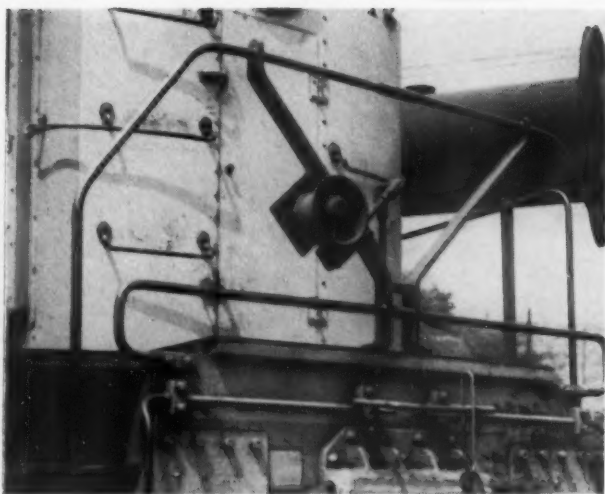
facture is the principal industry in this area. Rankin is on one side of the river and Homestead on the other, with a double-track bridge connecting them. The radio-equipped yard office is at Rankin.

The 13 additional locomotives and yard offices presently being equipped with radio are at Clairton, on the south end of the railroad, and also along the Monongahela river. Clairton is a blast furnace and coke operation area of the steel industry. Locomotives at Clairton handle switching in a radius of about 3.5 miles, similar to that at Rankin-Homestead. The fixed radio station for Clairton will be in the yardmaster's office at Maple Avenue yard, in about the center of the area, with a remote control station at "B" Yard Office, about  $\frac{3}{4}$  mile away. A single-pair telephone line and ground return between the offices will be used for remote control of the fixed-station transmitter, and for intercommunication between the offices.

The locomotives in the Rankin-Homestead areas are used primarily in transfer service, such as hauling ladle cars of hot metal, inbound cars of ore from the main line to the steel mills, outbound cars of coke, refuse, etc. About 500 such cars are handled in these areas every 24 hours, seven switching crews being on duty around the clock. These include four hot metal crews, two cinder crews, one main-line crew, one drag crew and one car-dumping crew.

Traffic in the Rankin-Homestead areas, as well as other





Talk-back speaker on front of locomotive lets crew talk to engineman or yardmaster

industrial areas along the Union, must be kept moving without delay. Prior to the road's adoption of radio, the density and complexity of its traffic made unavoidable a measure of confusion at times, resulting in delays to switching. With the new radio communications, the yardmaster now has an instant means of contacting the switching crews under his jurisdiction. For example, if a last minute cut has to be made out of a block of cars anywhere in the areas, the yardmaster can issue the necessary instructions right from his office, without having to go out on the ground to search for a crew, or wait for one to telephone in, as he had to do previously. Considerable time and trouble are thus saved.

For example, should screen trouble develop at the coke plant, requiring immediate loading of a car, the yardmaster can instruct a crew to spot a car at once, which was not always possible under the previous method of operation. Similarly, should crane trouble develop at the blast furnace, which would delay loading cars, the yardmaster can instruct the switching crew to proceed to some other work, saving its time and increasing locomotive efficiency. Other advantages of the radio are numerous.

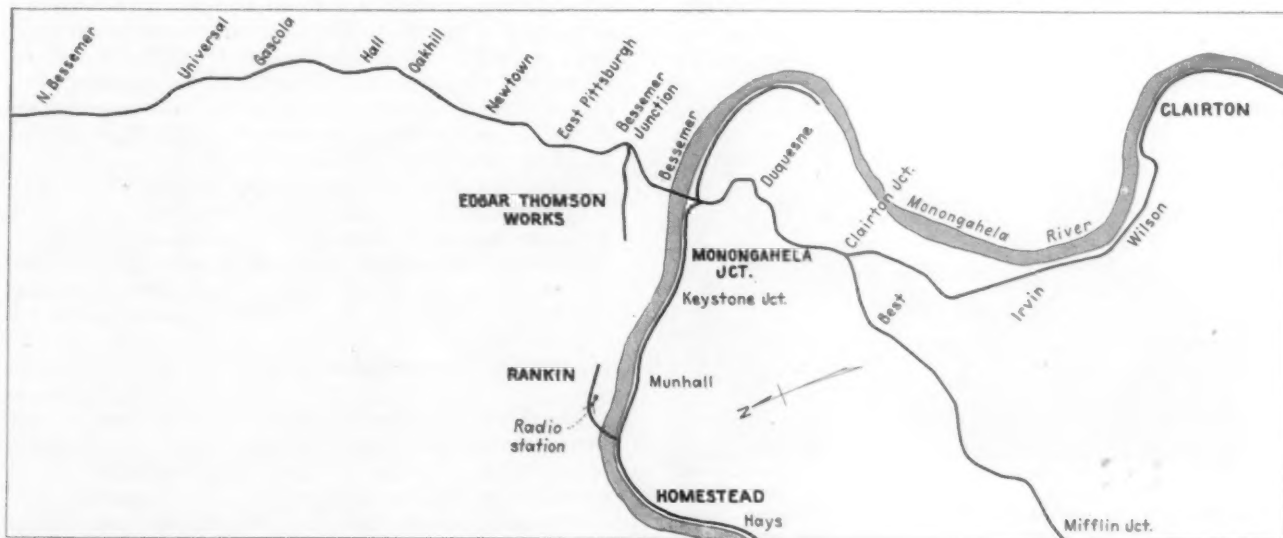
To communicate back and forth with the switching crews under his jurisdiction, the yardmaster has a Westinghouse Type MR radio control console near his desk in the Rankin yard office. This unit includes a loudspeaker, indicating lamps, controls and a microphone, for control of a Type MR transmitter and receiver. This equipment is sheltered in a 76 in. by 27 in. by 15 in. steel cabinet on the same floor as the yard office, but in an adjacent room. The fixed-station radio antenna, which is a coaxial dipole type, is mounted on the roof of the yard office building, and connected to the radio equipment by a Type RG-18/U 52-ohm coaxial cable.

The radio equipment in the cab of each locomotive consists of a Westinghouse Type MR transmitter and receiver, mobile control unit, noise-cancelling type handset and a Racon 20-watt, 8-ohm double re-entrant type speaker. The control unit includes transmitting and power indicator lamps, a volume control, call button and a test button. In addition to the loudspeaker in the cab, a talk-back type speaker and two-way control switch are mounted above the footboards at the front of the locomotive. This arrangement enables a crew member at the head end to talk to the engine crew by intercommunication with the control switch one way, and with the yard office by radio with the switch the opposite way.

#### Radio Characteristics

The receivers and transmitters are the Westinghouse Type MR-4, operating on Channel 26 at 159.87 mc. The transmitters on the locomotives have a power output of 25 watts. Power requirements for the radio equipment are 160 watts when standing by, and 315 watts when transmitting. Power for operation of the radio equipment on each locomotive is furnished at 110 volts, 60 cycles, a.c. by an Eicor converter on the top of the engine hood in front of the cab, which operates off the 64-volt d.c. locomotive starting battery and control circuit. The converters, as well as the radio equipment on the locomotives, are given a routine check-up every 30 days. The fixed radio equipment at Rankin is powered by 110-volt a.c.

This radio communication project has been and is now being carried out by Union Railroad forces, the major items of radio equipment being furnished by the Westinghouse Electric Corporation.



Part of the area served by radio on the Union Railroad



Engineman (left) uses his radio while seated at cab window. Yardmaster (above) uses radio to talk to enginemen or switching crew

## How the Union Railroad Saves Time with Radio

***Installations of two-way equipment on locomotives and in yard offices, in dense industrial areas around Pittsburgh, produce better coordination of switching movements***

To effect closer coordination of industrial switching movements in two important areas on its line in the vicinity of Pittsburgh, the Union Railroad has installed two-way radiotelephone equipment in six 1,000-hp. single-unit diesel-electric switching locomotives and one yardmaster's office. The road is placing similar equipment on 13 more locomotives, in a second yard office, and at a remote-control point in another switching area. The use of radio in other areas, as well as in main-line train service, is being considered.

### ***Switching and Interchange***

The Union is a 38-mile freight carrier, and operates no passenger trains. It performs general switching and bridge service between other roads and industries on its line around Pittsburgh; and interchanges with the Baltimore & Ohio, the Unity railways, the Bessemer & Lake Erie, the Pennsylvania, the Montour, the Pittsburgh & West Virginia, and the Pittsburgh & Lake Erie. There are seven principal industrial switching areas on the road. These are, from north to south: Edgar Thomson, Monongahela Junction, Duquesne, Rankin, Homestead, Irvin and Clairton. The first six locomotives to be equipped with two-way radio are in operation within a radius of three to four miles in the Rankin-Homestead area, which extends along the Monongahela river in approximately the middle of the railroad. Steel-manu-

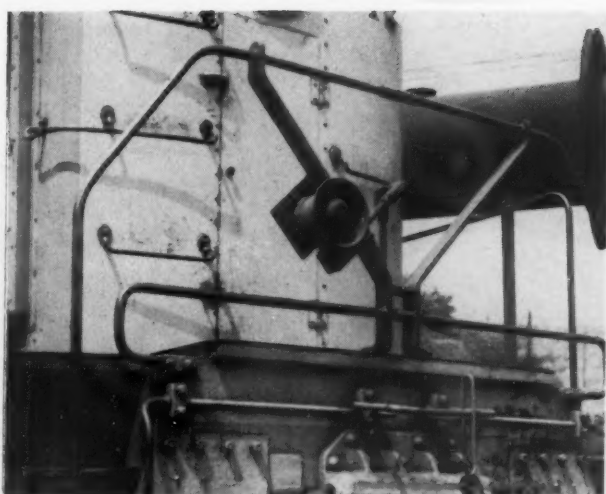
facture is the principal industry in this area. Rankin is on one side of the river and Homestead on the other, with a double-track bridge connecting them. The radio-equipped yard office is at Rankin.

The 13 additional locomotives and yard offices presently being equipped with radio are at Clairton, on the south end of the railroad, and also along the Monongahela river. Clairton is a blast furnace and coke operation area of the steel industry. Locomotives at Clairton handle switching in a radius of about 3.5 miles, similar to that at Rankin-Homestead. The fixed radio station for Clairton will be in the yardmaster's office at Maple Avenue yard, in about the center of the area, with a remote control station at "B" Yard Office, about  $\frac{3}{4}$  mile away. A single-pair telephone line and ground return between the offices will be used for remote control of the fixed-station transmitter, and for intercommunication between the offices.

The locomotives in the Rankin-Homestead areas are used primarily in transfer service, such as hauling ladle cars of hot metal, inbound cars of ore from the main line to the steel mills, outbound cars of coke, refuse, etc. About 500 such cars are handled in these areas every 24 hours, seven switching crews being on duty around the clock. These include four hot metal crews, two cinder crews, one main-line crew, one drag crew and one car-dumping crew.

Traffic in the Rankin-Homestead areas, as well as other





Talk-back speaker on front of locomotive lets crew talk to engineman or yardmaster

industrial areas along the Union, must be kept moving without delay. Prior to the road's adoption of radio, the density and complexity of its traffic made unavoidable a measure of confusion at times, resulting in delays to switching. With the new radio communications, the yardmaster now has an instant means of contacting the switching crews under his jurisdiction. For example, if a last minute cut has to be made out of a block of cars anywhere in the areas, the yardmaster can issue the necessary instructions right from his office, without having to go out on the ground to search for a crew, or wait for one to telephone in, as he had to do previously. Considerable time and trouble are thus saved.

For example, should screen trouble develop at the coke plant, requiring immediate loading of a car, the yardmaster can instruct a crew to spot a car at once, which was not always possible under the previous method of operation. Similarly, should crane trouble develop at the blast furnace, which would delay loading cars, the yardmaster can instruct the switching crew to proceed to some other work, saving its time and increasing locomotive efficiency. Other advantages of the radio are numerous.

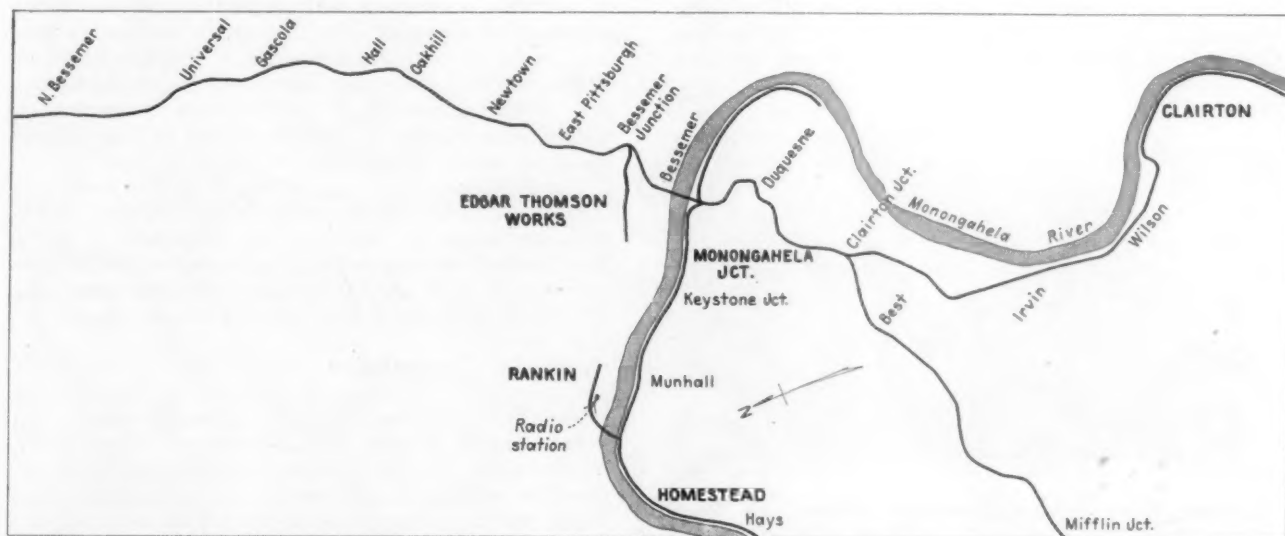
To communicate back and forth with the switching crews under his jurisdiction, the yardmaster has a Westinghouse Type MR radio control console near his desk in the Rankin yard office. This unit includes a loudspeaker, indicating lamps, controls and a microphone, for control of a Type MR transmitter and receiver. This equipment is sheltered in a 76 in. by 27 in. by 15 in. steel cabinet on the same floor as the yard office, but in an adjacent room. The fixed-station radio antenna, which is a coaxial dipole type, is mounted on the roof of the yard office building, and connected to the radio equipment by a Type RG-18/U 52-ohm coaxial cable.

The radio equipment in the cab of each locomotive consists of a Westinghouse Type MR transmitter and receiver, mobile control unit, noise-cancelling type handset and a Racon 20-watt, 8-ohm double re-entrant type speaker. The control unit includes transmitting and power indicator lamps, a volume control, call button and a test button. In addition to the loudspeaker in the cab, a talk-back type speaker and two-way control switch are mounted above the footboards at the front of the locomotive. This arrangement enables a crew member at the head end to talk to the engine crew by intercommunication with the control switch one way, and with the yard office by radio with the switch the opposite way.

#### Radio Characteristics

The receivers and transmitters are the Westinghouse Type MR-4, operating on Channel 26 at 159.87 mc. The transmitters on the locomotives have a power output of 25 watts. Power requirements for the radio equipment are 160 watts when standing by, and 315 watts when transmitting. Power for operation of the radio equipment on each locomotive is furnished at 110 volts, 60 cycles, a.c. by an Eicor converter on the top of the engine hood in front of the cab, which operates off the 64-volt d.c. locomotive starting battery and control circuit. The converters, as well as the radio equipment on the locomotives, are given a routine check-up every 30 days. The fixed radio equipment at Rankin is powered by 110-volt a.c.

This radio communication project has been and is now being carried out by Union Railroad forces, the major items of radio equipment being furnished by the Westinghouse Electric Corporation.



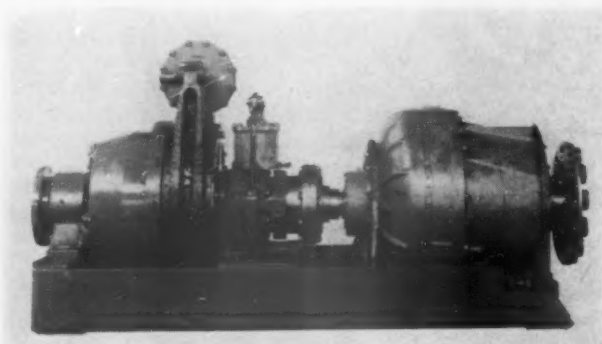
Part of the area served by radio on the Union Railroad



## Plymouth 50-Ton Diesel Switcher Has Hydraulic Drive

*Equipped with Caterpillar 328-hp. diesel engine, this locomotive develops 45,000 lb. maximum tractive force*

The principal innovation in a 50-ton diesel switcher, built by the Plymouth Locomotive Works, Plymouth, Ohio, and placed in interplant service of the duPont Company at Gibbstown, N.J., early this year, is the



Fate-Roote-Heath hydraulic-mechanical transmission which has an efficiency of 90 per cent. Twin Disc 1600 series torque converter at the right (engine) end. Planetary transmission at the left end

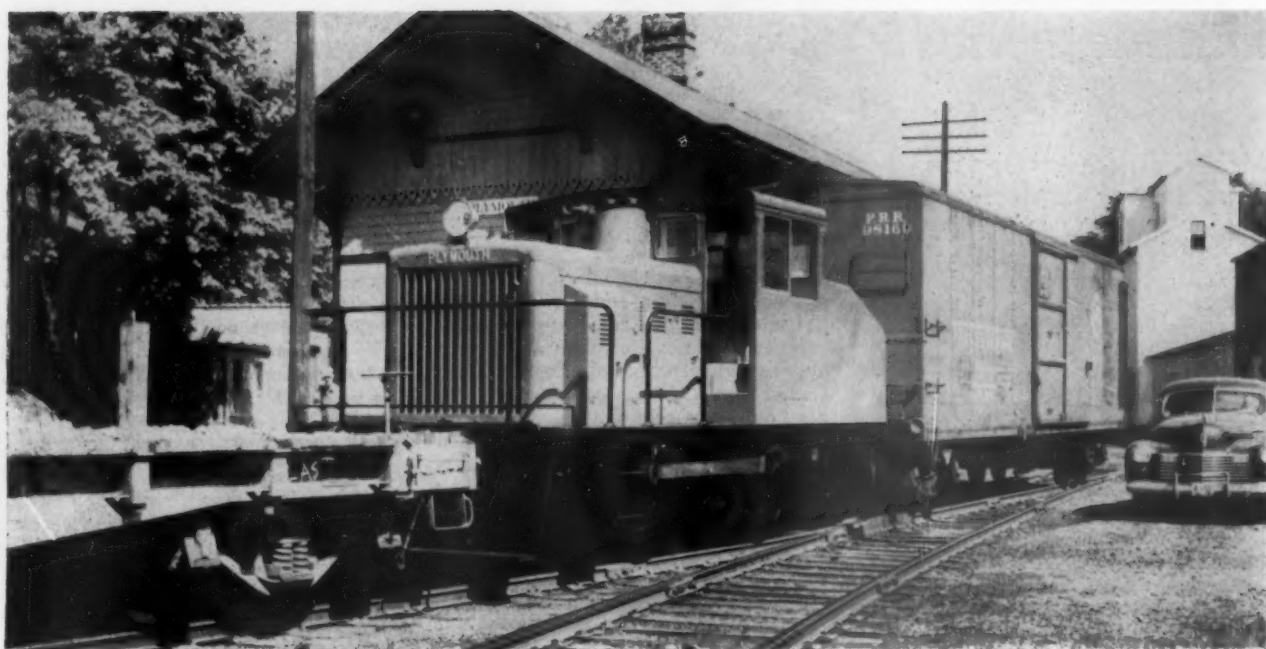
hydraulic torque converter and planetary transmission mounted on a common base so that it can be applied as a unit in assembly. The locomotive weighs 50 tons, but can be built to weigh 44 tons, if desired. Based on 90 per cent efficiency of the Fate-Root-Heath transmission, the calculated maximum tractive force at starting is 45,000 lb. in the first speed ratio of 10.2 to 1 and 22,200 lb. in the second speed ratio of 5 to 1.

The locomotive has four 38-in. driving wheels with side-rod connection to the main drive shaft and is 22½ ft. long, bumper to bumper. The wheel base is 96 in. Motive power is supplied from a Caterpillar D-375 diesel engine with eight 5¾-in. by 8-in. cylinders, developing 328 hp. at 1,200 r.p.m. The fuel tank capacity is 100 gal.

### Hydraulic Transmission

The Twin-Disc, Series-16,000, hydraulic torque converter, located between the engine and the planetary transmission, is connected by flexible couplings and provides an infinite number of ratios including zero. The torque converter is said to develop the most effective torque for varying requirements, to eliminate vibration and shock loads from the engine and to prevent any





Plymouth 50-ton diesel on a light switching operation

possibility of stalling the engine due to overload. The torque converter has few wearing parts and the normal wear on parts such as the gears and axles is greatly reduced due to shock-absorbing features of the converter.

Power from the torque converter is transmitted directly to the planetary transmission by a flexible coupling. The use of a planetary transmission gives the locomotive the two speed ranges to which reference has already been made. When the planetary clamping brake is applied, power is transmitted through the planetary gearing to the output shaft, delivering greater torque at a slower speed. Releasing the clamping brake and engaging the planetary clutch causes the planetary transmission to turn as a unit, resulting in a straight-through drive. When both the planetary brake and clutch are released the planetary transmission will not transmit power and the torque converter cannot deliver power to the reversing transmission.

Behind the planetary unit is the reverse case which houses the final drive shaft and reverse gears. Additional gear reduction is also obtained through the bevel and pinion gears. The final drive shaft extends through the frame and is supported by heavy-duty antifriction bearings. Heavy counterbalance cranks are mounted on each end of the final drive shaft and power is transmitted from these cranks to the wheels by side rods.

The high-carbon forged-steel side rods are bronze bushed and contain large grease reservoirs equipped with high-pressure fittings. Crank pins and wheel pins are fitted with hardened steel sleeves.

The engine-cooling system consists of a sectional-core radiator placed on the front of the locomotive. The illuminated instrument panel, conveniently located, includes a water-temperature gage, lubrication-oil pressure gage, battery ammeter, torque-converter fluid-pressure and temperature gages, air-brake gage and master switch for the electrical system.

The locomotive frame is welded, consisting of heavy steel plate for the side frames and bumpers. These plates are torch cut to the correct shape and welded together with reinforcing plates and gussets where needed. Sup-

porting brackets and crossies are also welded in place, forming a strong one-piece frame.

Semi-elliptic, oil-tempered springs are furnished, one over each axle box. The spring suspension has cross equalization (three-point suspension) to eliminate excessive strain in the frame structure, to assure smooth operation and to reduce the possibility of locomotive derailment when operating over uneven track.

The 38-in. wheels have cast-steel centers and steel tires with Association of American Railroads tread and flange, unless otherwise specified. The 7½-in. axles are equipped with Timken roller bearings. Journal boxes are positioned between taper wear plates adjustable to take up slack as it develops.

The cab is fabricated with rolled steel shapes and sheets securely welded together. The cab is fully enclosed with steel sash windows of shatterproof glass set in rubber; sliding windows are equipped with suitable catches; full insulation against heat and cold is provided.

The hood is of heavy steel, bolted in place for easy removal. Doors are of the vertical-hinged type for easy access to equipment from both sides of the locomotive. Louvers in hood doors supply adequate air for engine compartment ventilation.

Lever-type brake rigging is used with brake shoes covering the tread and flange of wheels. Westinghouse straight air brakes are installed with SA-2 brake valve.

#### Optional Equipment

Optional equipment which may be installed at additional cost includes: Westinghouse straight and automatic air brake, schedule AMF or 14 EL; adjustable radiator shutters; spark-arrestor silencer; spring-operated safety fuel shutoff valve which can be tripped from inside or outside the cab; flange lubricators for the leading wheels in either direction; Pennypacker couplers for moving standard freight cars around sharp curves; special couplers to suit customer's requirements; side and rear observation mirrors; engine circulating water heater for use when the engine is not in service.

## GENERAL NEWS

### More Witnesses Oppose Trucking of Explosives

Motor carriers seeking authority to transport explosives in interstate commerce faced new opposition as hearings in the proceeding were resumed last week in Washington, D. C. Witnesses from four states and the city of St. Louis asked the Interstate Commerce Commission to deny truckers the authority to haul explosives over the highways.

These opponents took the position that granting the motor carrier applications would unduly jeopardize lives and property. They reflected concern for the safety and security of highway bridges, and for the cities through which truck routes necessarily have to pass. They said highways already are overcrowded and permitting truckers to carry explosives would add hazards "simply beyond reason."

Technically, the hearing before I.C.C. Examiner Stillwell involves only the application of Riss & Co. (MC-200, Sub No. 84.) However, this case is the "trial balloon" on which 59 other similar applications will be based. As agreed at previous hearings in Chicago, Ill., evidence presented in the Riss case will apply to all the sub-

sequent cases. (*Railway Age*, November 5, page 18, and October 1, page 89.)

Appearing at the Washington hearing were State Senator F. W. Bartling of Wyoming; Charles G. Gonter, traffic commissioner, St. Louis; H. D. Booth, traffic and safety director for Arkansas; J. T. Reece, director of school bus transportation in New Mexico, and Lloyd F. Palmer, manager of the Oklahoma Safety Council.

Senator Bartling and Mr. Booth appeared at the personal request of the governors of their respective states in opposing the trucker applications. Mr. Gonter was directed to appear by the St. Louis city council.

Meanwhile, the I.C.C. has overruled a motion by protesting railroads asking that motor carrier applicants be required to file detailed information as to routes, places where vehicles would be serviced or parked, accident records, traffic violations by drivers, and similar information. The commission said, among other things, that the burden of proof is on each motor carrier to establish that it is "fit, willing and able" to perform the service proposed.

On November 28, Guy L. Brown, assistant grand chief engineer of the Brotherhood of Locomotive Engineers, appeared as a witness in the hearings to urge denial of the applications. Mr. Brown said the union is interested in the maintenance of a financially sound and solvent railroad industry so that

### DEBUTTS TO SUCCEED NORRIS ON SOUTHERN

Ernest E. Norris, president of the Southern since October 21, 1937, will retire from that position at his own request on December 31. Mr. Norris, who has been elected to the new position of chairman of the board, will be succeeded in the presidency by Harry A. DeButts, who is now vice-president—operation of the Southern System.

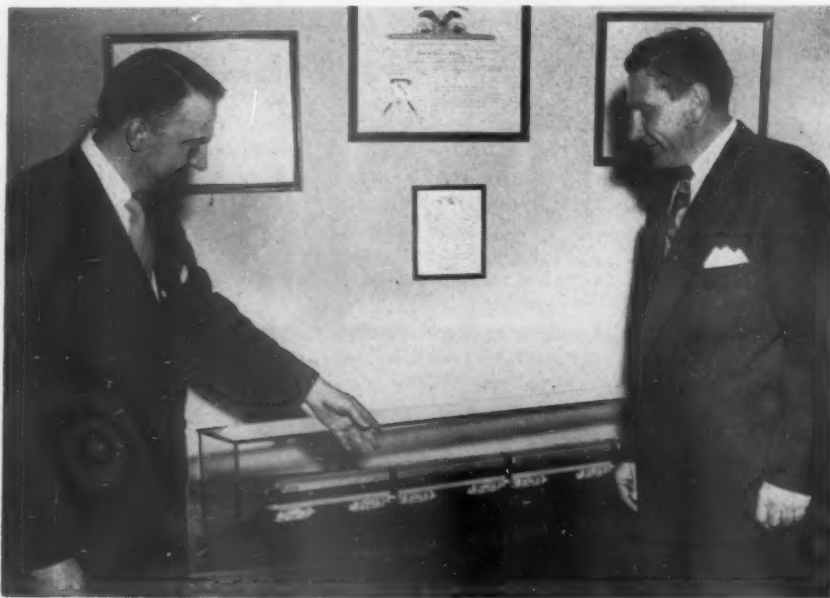
D. W. Brosnan, general manager of the systems Central Lines at Knoxville, Tenn., will move to Washington, D. C., to succeed Mr. DeButts.

rail carriers may "render safe and efficient service under safe working conditions and satisfactory wage scales."

### Leasing Order Postponed

The Interstate Commerce Commission has postponed, from December 1 to February 1, 1952, the effective date of its order prescribing "trip-leasing" rules for motor carriers. The postponement was made at the request of the U. S. District Court for Indiana, where 21 motor carriers have entered suit to have the order set aside.

The I.C.C. order, handed down last May, to become effective August 1, prescribes rules to govern leasing and interchange of vehicles by common and contract truckers. (*Railway Age*, May 28, page 61.) The order has been extended from time to time while the courts hear and decide the case. The commission regulations are being contested in five different federal courts.



#### SETTING THE RECORD STRAIGHT.—

In the office of the under-secretary of commerce for transportation there is an exhibit of scale models of major forms of transportation. But for some reason a suitable railroad model was never presented for the collection. Recently this oversight was rectified by R. L. Terrell (left), assistant eastern regional

manager of the Electro-Motive Division of General Motors, when he presented Mr. Rentzel with a quarter-inch model of a 6,000-hp. E.-M.D. freight locomotive. Mr. Rentzel, in accepting the model for the office, termed it "a symbol of the progressive attitude of the railroad industry toward getting its physical plant in readiness"

## ORGANIZATIONS

The Ohio Valley Transportation Advisory Board will hold its 28th annual and 100th regular meeting in the Sheraton-Gibson Hotel, Cincinnati, on December 4 and 5. Harrie Benzie, manager of traffic and transportation of the major appliance division of the General Electric Company, Louisville, Ky., will be the guest speaker at a December 5 joint luncheon session sponsored by the Cincinnati Traffic Club, the Cincinnati Chamber of Commerce Forum, the Cincinnati Board of Trade, and the Traffic League of Cincinnati.

The Executive Committee of the Allegheny Regional Advisory Board will meet with railroad operating and traffic representatives on December 13, at the Hotel Roosevelt, Pittsburgh, to discuss, among other things, car supply, transportation service, and loss and damage prevention. C. R. Megee,



vice-chairman of the Car Service Division of the Association of American Railroads, will report on the national transportation situation.

Governor Frank A. Barrett of Wyoming will be guest speaker at a luncheon session to be held by the **Central Western Shippers Advisory Board** December 4, at Cheyenne, Wyo., in cooperation with the **Cheyenne Chamber of Commerce**.

The **Railway Business Woman's Association of Chicago** will visit Galesburg, Ill., on a special streamlined Santa Fe train leaving Chicago at 9 a.m. December 8. A number of Santa Fe officers will accompany the group to explain the railroad's operation in the territory.

The **Clearing-Cicero Traffic Conference** (Chicago) has set December 13 for its annual "Home Talent" night. Dinner will be served at the clubhouse at 6:30 p.m.; following a short business meeting, the entertainment committee will take over for an evening of "traffic talent."

## SUPPLY TRADE

**J. R. McNicoll**, formerly assistant traffic manager at Philadelphia for **E. J. Lavino & Co.**, has been appointed district traffic manager, with headquarters at Newark, Cal.

The **Minneapolis-Honeywell Regulator Company** has opened a new district office at Harrisburg, Pa., in the Kline Village development. **William J. Brosch** and **Jack Caylor** will handle sales for the company's



**W. H. Webb**, who has been appointed sales manager of alkali products for the **Detrex Corporation**, of Detroit. Since he joined Detrex 10 years ago, Mr. Webb has worked successively as assistant manager Alkali division, assistant national accounts manager and central region manager

Brown Instruments division; **John Hopkins** will handle commercial, and **Donald Schmick**, heating controls divisions sales.

**William E. Russell, Jr.**, of the New York law firm of Russell & Russell, has been elected a member of the board of directors of the **Simmons-Boardman Publishing Corporation**, publishers of *Railway Age* and other publications in the transportation and building industries. Mr. Russell takes the place on the directorate formerly occupied by the late Mrs. Ida R. Simmons, who was principal stockholder in the publishing company. His father, senior member of the Russell & Russell firm, has been on the directorate of the publishing company for many years and is trustee under the will of the late Mrs. Simmons of the controlling stock interest in the publishing company. The Russell firm has for many years handled the legal affairs of the publishing company.



**William E. Russell, Jr.**

Mr. Russell, Jr., is a graduate of Trinity School (N. Y.), Phillips Exeter Academy, Yale University and the Yale Law School, at all of which he achieved high scholastic honors, among them election to the Phi Beta Kappa society. He became associated with the law firm of Cravath, deGersdorff, Swaine & Wood in 1934 and participated in much important corporate litigation, including the so-called Schechter "sick-chicken" case, in which the National Recovery Act was declared unconstitutional; and in the Milwaukee Railroad reorganization. He was assistant counsel for the Truman Committee investigating defense expenditures in 1942-43 and has been a member of the Russell & Russell firm since 1942. He is a director of Dumari Textile Company and is trustee for a large mortgage company.

The **Quaker Rubber Corporation**, division of the **H. K. Porter Company**, has appointed **J. J. Merkel** and **E. E. Klemm** as branch managers of the Detroit and Cleveland districts, respectively. Messrs.



**George P. Long**, who has joined the **Cleveland Chain & Manufacturing Co.** as assistant general sales manager

**Merkel** and **Klemm** will assist their respective district managers in operation of sales offices and warehouses. Mr. Merkel has been working with Quaker in a sales capacity since 1948 and Mr. Klemm has been a member of the sales force for more than three years.

**Arthur H. Luchs**, general manager of the **Round California Chain Company**, South San Francisco, since 1930, has been elected also vice-president.

**Kennametal Inc.**, Latrobe, Pa., has made the following appointments: **Kenneth Trombley**, assigned to the new Tennessee and Alabama sales district, with headquarters at 18 Clearview avenue, Chattanooga; **Frank Price** as engineer and representative in the Middle Atlantic district; and **Lindsay Bros.** of Portland as agents covering the western Oregon area.

**L. D. Reed**, executive engineer of the **Whiting Corporation**, Chicago, retired from active duty on November 30.

**H. A. Glatte** has been named general sales manager of the **Tile-Tex** division of the **Flintkote Company**, succeeding **J. O. Heppes**, who has resigned.

**Harvey J. Hinecker** has been promoted to chief engineer of the automatic department of the **Automatic Transportation Company** in Chicago. He succeeds **Ressler A. Dussseau**, who has been named assistant general manager.

The **Standard Car Truck Company** has appointed **Ben H. Leese** as service manager, to supervise an augmented service staff to care for and instruct railroad personnel in field servicing of Barber stabilized trucks. Formerly on the engineering staff of the **Locomotive Firebox Com-**

pany, Mr. Leese joined Standard Car Truck in 1949. He devoted his entire career to development, design and servicing of railway devices.

**John S. Vreeland** has been elected a vice-president of the **Simmons-Boardman Publishing Corporation**, publisher of *Railway Age*. Mr. Vreeland, a sales representative for the Simmons-Boardman railroad publications since June 1946, was formerly



**John S. Vreeland**

eastern engineering editor of *Railway Age* and eastern editor of *Railway Engineering and Maintenance*. A biography of Mr. Vreeland appeared in *Railway Age* of December 17, 1949, at the time of his appointment as business manager of *Railway Signaling and Communications*.

## OBITUARY

**Joseph A. Brownell**, formerly assistant manager of railway sales for the Texas Company, in New York, died on November 24. He was 66 years old.

**Raymond C. Force**, first president of the Caterpillar Tractor Company, and a member of its board of directors and its executive committee, died on November 15 in Oakland, Cal.

## EQUIPMENT AND SUPPLIES

### Domestic Equipment Orders Reported in November

Domestic equipment orders for 202 diesel-electric locomotive units and 600 freight cars were reported in *Railway Age* in November. No passenger-train car orders were reported. Estimated cost of the diesel units is \$31,225,000, and of the freight cars, \$3,600,000. An accompanying table lists the orders in detail.

During the first 11 months of 1951

### Locomotives

Purchaser	No.	Type	Issue Reported	Builder
C. & O.	27	3-unit 4,500-hp. Frt.	Nov. 19	Electro-Motive
	7	3-unit 4,500-hp. Road	Nov. 19	Electro-Motive
	10	1,200-hp. Switching	Nov. 19	Electro-Motive
	26	1,600-hp. Rd.-Sw.	Nov. 19	American-G.E.
	11	1,600-hp. Rd.-Sw.	Nov. 19	Baldwin-Lima-Hamilton
F. E. C. Reading	5	1,500-hp. Freight	Nov. 5	Electro-Motive
	20	1,600-hp. Rd.-Sw.	Nov. 19	American-G.E.
	10	1,600-hp. Rd.-Sw.	Nov. 19	Baldwin-Lima-Hamilton
	8	1,500-hp. Rd.-Sw.	Nov. 19	Electro-Motive
S. P. & S.	2	1,500-hp. "A" Pass.	Nov. 19	Electro-Motive
	8	1,600-hp. Rd.-Sw.	Nov. 5	American-G.E.

### Freight Cars

Barrett Division, Allied Chem. & Dye Corp. ...	100	12,500-gal. Tank	Nov. 12	Amer. Car & Fdy.
M.-K.-T. ....	500	70-ton Hopper	Nov. 5	Presed Steel Car

*Railway Age* has reported domestic orders for 21 steam locomotives and 2,412 diesel-electric locomotive units costing an estimated \$378,267,777; 74,695 freight-train cars costing an estimated \$431,443,000; and 122 passenger-train cars costing an estimated \$17,485,000.

## FREIGHT CARS

### N.P.A. Programs 24,200 Freight Cars for 1st Quarter

Freight cars programmed for production in the first quarter of 1952 total 24,200, the National Production Authority has announced. However, the announcement said, because of acute shortages of materials, allotments of controlled materials will be made to carbuilders on a basis of 21,200 cars.

Allocations will be made according to the following table:

	Total Authorized	Total For Which Material Will Be Granted
Tank Cars	2,500	2,000
Domestic Freight Cars	20,500	18,000
Export Cars (For Mexico)	1,200	1,200
Total	24,200	21,200

The new program determination authorized by the Defense Production Administration does not provide for any increase in allotments of steel, copper and aluminum to freight car builders. These allocations, N.P.A. said, will still be based upon the original program determination.

"Although material allocations are not sufficient to build the larger number of units now authorized, it is believed that carbuilders will be able to build the larger number of units authorized now by using some materials from inventories and by conservation and substitution," Guy O. Beale, director of N.P.A.'s railroad equipment division, said. "The government fully recognizes the importance of a sound and healthy railroad transport system in the U. S. Program determinations on freight-car buildings are being made with this consideration in mind and are supported with controlled material allotments to the fullest extent possible in the present period of shortages."

The Atchison, Topeka & Santa

Fe has ordered 30 mechanical refrigerator cars from its own shops. The cars will be equipped with diesel-powered refrigeration systems provided by the Trane Company of La Crosse, Wis., the Frigidaire Division of General Motors, Dayton, Ohio, and the Carrier Corporation, Syracuse, N. Y. In announcing the order, the road said: "This development climaxes a test program inaugurated in 1947 and may very well become one of the most important developments in railroading since the diesel-electric locomotive."

The **Missouri-Kansas-Texas** will build 25 50-ton heavy-duty flat cars in its Denison, Tex., shops at an approximate cost of \$200,000. Construction is tentatively scheduled for early 1952.

The **Transportation Corps** has requested bids on 965 high-side 40-ton gondola cars, 386 10,000-gal. tank cars and 135 40-ton refrigerator cars. All are destined for foreign service. Bids on the gondola and tank cars are due December 12, and for the refrigerator cars on December 11. The reefers and gondolas are for the Army.

The **Wabash** has ordered 200 50-ton box cars, with 15-ft. doors, from the American Car & Foundry Co.

## LOCOMOTIVES

### Backlog of Locomotives On Order Totals 1,742

Class I railroads had 1,742 new locomotives on order on November 1, of which 1,719 were diesel-electric, 21 steam and two electric, the Association of American Railroads announced last week. On November 1 last year, Class I roads had 1,523 locomotives on order.

New locomotives installed in the first 10 months of 1951 totaled 2,135, including 2,117 diesel-electric, 16 steam and two electric. In the same period of 1950 installations totaled 1,932, of which 1,915 were diesel-electric, nine steam and eight electric.

In October this year, a total of 279 new locomotives were installed. Of this number, 277 were diesel-electric and two were steam.

The **Transportation Corps** has re-





# SPOKES IN THE MONON WHEEL OF PROGRESS

CLARENCE J. SLATHOUR

Monon Engineer says:

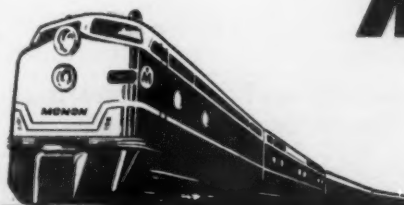
"Yes, I'm mighty proud to be called a 'spoke' in the Monon Wheel of Progress. Anybody likes to feel that his efforts are recognized. The Monon organization, as it is today, makes a fellow *want* to work. I have never seen such enthusiasm in my 49 years with the road. We're all keyed up to the company policy of 'service-with-a-plus.'

That's why we're delivering the goods 'on time and in good condition' as they say. The Monon Team, from the front office right down the line, is really playing ball!"



*There are, today, 22 Monon agencies*

on-line and off-line, serving the shipping needs of the nation. Why not get in touch with the one near you and sample Monon's service-with-a-plus?



  
**MONON**  
THE HOOSIER LINE

CHICAGO, INDIANAPOLIS AND LOUISVILLE RAILWAY COMPANY

quested bids on 772 1,600-hp. diesel-electric locomotive units. Bids for the equipment—which is intended for the Army and will be used in foreign service—are due on December 10.

## SIGNALING

The **Wabash** has ordered from the Union Switch & Signal Division of Westinghouse Air Brake Company material to install an interlocking at Forrest, Ill. The installation will be controlled by a style B-30 control machine. Other material includes styles H-5 searchlight signals, M-23A dual-control electric switch machines, relays, rectifiers, transformers and housings. Field installation will be handled by railroad forces.

## IRON & STEEL

The **Missouri Pacific's** 1952 track program calls for the laying of 302 track-miles of new rail, including 16,505 tons of 132-lb. rail and 47,780 tons of 115-lb. rail. The program will cost — including tie plates, switches and other track material — \$8,684,946, or \$28,758 per mile.

## MARINE

### Standardized Steel Scows Launched in New York

The first three of 80 standardized steel scows which the Bethlehem Steel Company's Staten Island, N. Y., yard is scheduled to construct within the next 12 months for the Delaware, Lackawanna & Western and the New York Central were launched recently. Launching of the vessels, which are for the D.L.&W., marked the opening of a program under which railroads operating fleets in New York Harbor will replace existing wooden scows and barges with modern steel craft of uniform design, construction, size and equipment.

The replacement program was developed by the General Managers Association of New York, a group of executives representing railroads operating in the northeastern United States. Under it, carriers will be able to expand the capacity of the harbor fleets, cut the rising trend of costs involved in maintenance of present wooden fleets, and obtain design and construction advantages resulting from mass production.

The new standardized scow is an all-welded steel craft with an overall length of 90 ft., breadth of 30 ft. and depth of 9 ft. 3 in. It is equipped with a wooden cabin for one man. By adding a freight house, the scow becomes a barge. Both scow and barge use the same hull, the same deck, and have similar fittings. The cabin of the scow is designed to be integrated with the freight house of the barge. Forty such scows have been ordered by the Central and the Lackawanna has or-

dered 10 barges and 30 scows, including the three already launched. All are scheduled to be delivered by mid-October 1952.

## FINANCIAL

### New Securities

Applications have been filed with the I.C.C. by:

**CHESAPEAKE & OHIO.**—To assume liability for \$8,850,000 of equipment trust certificates to finance in part 54 diesel-electric locomotive units, 200 hopper cars, and 100 flat cars. Estimated total cost of this equipment is \$11,172,220.

Description	Builder	Estimated Unit Cost
1 2,250-hp. passenger unit (Electro-Motive Division, General Motors Corporation)		\$233,808
14 1,500-hp. road-switching units (Electro-Motive)		156,248
6 4,500-hp. freight locomotives, each consisting of two 1,500-hp. "A" units and one 1,500-hp. "B" unit (Electro-Motive)		503,944
2 4,500-hp. combination freight and passenger locomotives, each consisting of two 1,500-hp. "A" units and one 1,500-hp. "B" unit (Electro-Motive)		549,310
8 1,600-hp. road-switching units (Baldwin-Lima-Hamilton)		184,901
7 1,600-hp. road-switching units (American Locomotive Company)		186,013
200 70-ton hopper cars (American Car & Foundry Co.)		5,923
100 70-ton flat cars (Greenville Steel Car Company)		6,829

The certificates would be dated December 15, and would mature in 30 semiannual installments of \$295,000 each, beginning June 15, 1952. They would be sold by competitive bidding, with the interest rate to be set by such bids.

**CHICAGO, ROCK ISLAND & PACIFIC.**—To assume liability for \$4,950,000 of series I equipment trust certificates to finance in part acquisition of 1,180 boxcars costing an estimated \$6,614,381. Pullman-Standard Car Manufacturing Company will build 580 of the cars at a unit cost of \$5,650, and American Car & Foundry Co. will build the remaining 600 at a cost of \$5,563 each. The certificates, to be dated January 1, 1952, would mature in 30 semiannual installments of \$165,000 each, beginning July 1, 1952. They would be sold by competitive bidding, with the interest rate to be set by such bids.

**NEW YORK, CHICAGO & ST. LOUIS.**—To assume liability for \$1,950,000 of equipment trust certificates to finance in part 25 diesel-electric locomotive units costing an estimated \$2,474,276.

Description	Builder	Estimated Unit Cost
7 1,200-hp. switching units (Electro-Motive Division, General Motors Corporation)		\$102,941
1 1,000-hp. switching unit (American Locomotive Company)		104,047
9 1,000-hp. switching units (Alco)		101,287
5 800-hp. switching units (Electro-Motive)		91,441
3 800-hp. switching units (Electro-Motive)		93,371

The certificates, to be dated January 1, 1952, would mature in 30 semiannual installments of \$65,000 each, beginning July 1, 1952. They would be sold by competitive bidding, with the interest rate to be set by such bids.

Division 4 of the I.C.C. has authorized:

**NORTHERN PACIFIC.**—To assume liability for \$3,420,000 of equipment trust certificates to finance in part 17 diesel-electric locomotives (23 units) and 200 ore cars. Estimated total cost of the equipment is \$4,281,513. (Railway Age, November 5, page 96.) The certificates, dated November 30, will mature in 15 annual installments of \$228,000 each, beginning November 30, 1952. Division 4 approved sale of the certificates at 99.633, with interest at 3 per cent—the bid of Salomon Bros. & Hutzler and three associates—which will make the average annual cost of the proceeds to the road approximately 3.08 per cent. The certificates were reoffered to the public at prices yielding from 2.25 to 3.1 per cent, according to maturity.

**SEABOARD AIR LINE.**—To assume liability for \$8,070,000 of series K equipment trust certificates to finance in part acquisition of new equipment costing an estimated \$10,778,588. The equipment includes 52 diesel-electric locomotives, 300 box cars and 25 caboose cars. Seventeen of the loco-

motives were paid for in cash early in 1951, so part of the proceeds from these certificates will be used to reimburse the company treasury. (Railway Age, November 5, page 96.) The certificates, dated November 15, will mature in 30 semiannual installments of \$269,000 each, beginning May 15, 1952. Division 4's report approved sale of the certificates at 99.389, with interest at 3 per cent—the bid of Salomon Bros. & Hutzler and three associates—which will make the average annual cost of the proceeds approximately 3.1 per cent. The certificates were reoffered to the public at prices yielding from 2.15 to 3.15 per cent, according to maturity.

### Security Price Averages

	Nov. 27	Prev. Week	Last Year
Average price of 20 representative railway stocks	53.15	53.18	47.77
Average price of 20 representative railway bonds	90.24	90.69	96.10

### Dividends Declared

**BANGOR & AROOSTOOK.**—\$5, preferred, \$1.25, quarterly, payable January 2, 1952, to holders of record December 6.

**BOSTON & ALBANY.**—\$2.25, payable December 31 to holders of record November 30.

**CHICAGO GREAT WESTERN.**—5% preferred, 62½c, accumulated, payable December 27 to holders of record December 19.

**CINCINNATI, NEW ORLEANS & TEXAS PACIFIC.**—\$4, semiannual, payable December 18 to holders of record December 4.

**GULF, MOBILE & OHIO.**—common, 50c, quarterly, payable March 31, 1952, to holders of record March 11, 1952; \$5 preferred, \$1.25, quarterly, payable September 30, 1952, to holders of record September 10, 1952.

**ILLINOIS CENTRAL.**—75c, quarterly, payable December 17 to holders of record November 26.

**KANSAS, OKLAHOMA & GULF.**—3% non-cumulative preferred, \$3; 6% preferred A, \$3, semiannual; 6% preferred B, \$3, semiannual; and 6% non-cumulative preferred C, \$3, semiannual, all payable December 1 to holders of record November 17.

**MOBILE & BIRMINGHAM.**—4% preferred, \$2, semiannual, payable January 2, 1952, to holders of record December 1.

**NEW YORK, CHICAGO & ST. LOUIS.**—6% preferred, \$1.50, quarterly, payable January 2, 1952, to holders of record December 7.

**RICHMOND, FREDERICKSBURG & POTOMAC.**—common, 50c, quarterly; extra, \$1; dividend obligations, 50c, quarterly; extra, \$1; 6% guaranteed preferred, \$1.50, extra; 7% guaranteed preferred, \$1.50, extra, all payable December 18 to holders of record December 7.

## GENERAL NEWS

### I.C.C. Upheld on New York Commutation Fares

The United States Supreme Court has affirmed a lower-court ruling which upheld an Interstate Commerce Commission order that overrode the Public Service Commission of New York in a case involving intrastate commutation fares of the New York, New Haven & Hartford. The fares involved are those between New York City and New Haven stations in Westchester county.

The commission's order, issued December 12, 1950, put the fares on the interstate basis, thus raising them above a level approved by the New York regulatory body. (Railway Age of December 16, 1950, page 56.)

### Canadian Pacific Reiterates Opposition to Subsidies

The Canadian Pacific, through Commission Counsel K. D. M. Spence, has reiterated before the special Parliamentary House committee which is



# *Economical and Fast* Steam Generation For all purposes with the *Elesco Automatic Steam Generator*

Push 2 controls and the generator operates automatically.

It saves space and weight.

Low investment cost.

Quick installation.

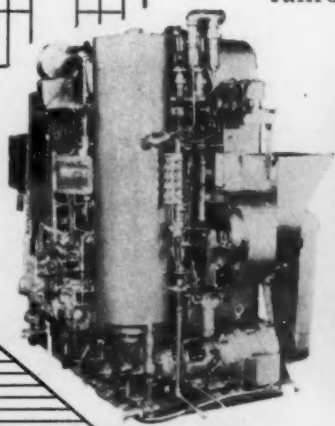
Steam is available in 3 minutes after generator is started.

Dependable safety controls.

Employs Controlled Recirculation...an advanced engineering principle.

It is built by a leader in the design and manufacture of steam generating equipment, whose name-plate is on many of the world's outstanding and largest steam generators in public utility and industrial steam plants.

If you want the best in automatic steam generators, you will specify ELESKO...a name that has dependably served the railroads for many years.



THE  
**SUPERHEATER CO., Inc.**

Division of  
**COMBUSTION ENGINEERING-SUPERHEATER, INC.**

200 Madison Ave., NEW YORK 16

Bankers Building, CHICAGO 3

Montreal, Canada, THE SUPERHEATER COMPANY, Ltd.

Representing AMERICAN THROTTLE COMPANY, INC.



Superheaters • Pyrometers • Injectors • Steam Driers • Feedwater Heaters • Steam Generators • Oil Separators • American Throttles • Welded Boilers

considering the Canadian government's measures to implement the recent Royal Commission report, that the C.P. does not favor subsidies. (*Railway Age*, November 19, page 12.)

His road, Mr. Spence said, felt that if subsidies were the settled policy of the government they should not be considered as subsidies to the railways, but rather as subsidies intended to benefit users of railway service. "We would have preferred," he added, "had Parliament desired to establish the principle of subsidizing freight shippers, that the subsidy be paid directly to the shippers whom it was intended to benefit, and not that it be paid to the railways themselves; since

the tendency is, of course, to forget the true destination of the subsidy is not the railway but the freight shippers."

There was cause for confusion, Mr. Spence said, in the wording of a subsection in the main railway bill relating to payment of subsidy to the two major Canadian railways for their sections through northwestern Ontario. Two lines of the Canadian National (Capreol to Port Arthur and Cochrane to Armstrong) will get some of the subsidy for an aggregate distance of 952 miles, while the one C.P. line to be subsidized, between Sudbury and Fort William, is 552 miles in length. Mr. Spence said the C.N. mileage was

nearly double that of the C.P., and the Railway Board is left under the section in the bill with no way of determining what section of the line is to be included by the C.N. in arriving at equivalent mileage. It could, however, be determined by using the average maintenance cost on a mileage basis of the total of the two C.N. lines and multiplying this by 552 to get the C.P. share.

## Railroad Print Exhibit

As a "salute to railroading," an exhibit of old railroading prints, depicting scenes from the industry's early days, supplemented by contemporary works, was opened November 16 at the galleries of Kennedy & Co., New York, in cooperation with the American Locomotive Company and several railroads. The exhibit, which will run through December 15, includes lithographs by Currier & Ives, water colors by Howard Fogg, and etchings by Otto Kuhler.

## Rate-Cost Difference Ever Widening, Says R. B. White

"The rise in railroad rate levels has not kept pace with the increase in cost levels, and the spread is continually widening," stockholders of the Baltimore & Ohio were told at the annual meeting in Baltimore on November 19. In his report to stockholders, R. B. White, B. & O. president, also attacked the extended lag between the occurrence of railroads' increased costs and the time rate increases are granted.

Col. White reported that operating revenues for the first 10 months of the current year were 13.6 per cent above the same period of 1950, while operating expenses had jumped 15.96 per cent. "The increase in revenues failed to match the rise in expenses because increases in costs were not promptly followed by approval of higher rates," he said. "Improved methods and mechanization represent the only means by which we can hope to absorb at least part of the difference between increased costs and the revenue accruing from inadequate rates." Col. White said diesel power had provided the most important savings in operating expenses, with an estimated annual saving of \$34,000,000 resulting from substitution of diesel power for steam. "These savings were almost wiped out by the increase in wage, fuel and material costs, this year over last," he added.

## Carriers Discuss Cost Cutting at Freight Stations

How to cut the cost of handling l.c.l. freight was the subject of a two-day conference sponsored by the New York Chapter of the American Materials Handling Society on November 15.

(Continued on page 108)

## Selected Income and Balance-Sheet Items of Class I Steam Railways in the United States

Compiled from 127 reports (Form IBS) representing 131 steam railways  
(Switching and Terminal Companies Not Included)

Income Items	United States			
	For the month of July 1951	For the month of July 1950	For the seven months of 1951	For the seven months of 1950
1. Net railway operating income.....	\$41,934,985	\$84,157,336	\$430,439,240	\$431,815,945
2. Other income.....	15,735,019	16,759,745	133,113,223	129,445,242
3. Total income.....	57,670,004	100,917,081	563,552,463	561,261,187
4. Miscellaneous deductions from income.....	4,085,901	3,646,612	33,213,233	26,464,718
5. Income available for fixed charges.....	53,584,103	97,270,469	530,339,230	534,796,469
6. Fixed charges:				
6-01. Rent for leased roads and equipment.....	8,518,089	9,797,268	65,486,708	66,276,056
6-02. Interest deductions <sup>1</sup> .....	25,149,577	25,242,479	174,185,087	175,239,644
6-03. Amortization of discount on funded debt.....	227,069	227,756	1,615,923	1,523,747
6-04. Total fixed charges.....	33,894,735	35,267,503	241,287,718	243,039,447
7. Income after fixed charges.....	19,689,368	62,002,966	289,051,512	291,757,022
8. Other deductions.....	3,323,225	3,076,927	21,876,388	22,221,256
9. Net income.....	16,366,143	58,926,039	267,175,124	269,535,766
10. Depreciation (Way and structures and Equipment).....	37,236,553	35,795,828	257,512,798	246,660,351
11. Amortization of defense projects.....	6,309,720	1,354,249	25,628,673	9,591,615
12. Federal income taxes.....	19,331,846	44,341,255	272,604,843	190,464,793
13. Dividend appropriations:				
13-01. On common stock.....	5,024,106	4,710,066	112,954,272	86,503,757
13-02. On preferred stock.....	4,401,193	5,552,444	61,793,293	38,219,616
Ratio of income to fixed charges (Item 5 + 6-04).....	1.58	2.76	2.20	2.20
Selected Expenditure and Asset Items				
United States Balance at the end of July				
1951 1950				
17. Expenditures (gross) for additions and betterments—Road.....	\$182,721,666	\$143,757,549		
18. Expenditures (gross) for additions and betterments—Equipment.....	567,960,722	429,947,663		
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707).....	472,462,054	460,788,425		
20. Other unadjusted debits.....	118,972,493	109,967,465		
21. Cash.....	799,600,649	858,973,695		
22. Temporary cash investments.....	879,616,957	915,156,168		
23. Special deposits.....	129,427,511	120,270,260		
24. Loans and bills receivable.....	1,843,110	1,047,155		
25. Traffic and car-service balances—Dr.....	58,752,146	59,498,999		
26. Net balance receivable from agents and conductors.....	158,435,594	148,937,000		
27. Miscellaneous accounts receivable.....	350,775,153	285,150,841		
28. Materials and supplies.....	898,298,534	705,782,148		
29. Interest and dividends receivable.....	12,344,043	10,902,576		
30. Accrued accounts receivable.....	213,127,648	180,369,601		
31. Other current assets.....	35,547,977	33,163,217		
32. Total current assets (items 21 to 31).....	3,577,769,322	3,319,251,660		
Selected Liability Items				
40. Funded debt maturing within 6 months <sup>2</sup> .....	\$160,084,982	\$145,963,432		
41. Loans and bills payable <sup>3</sup> .....	6,550,790	3,683,369		
42. Traffic and car-service balances—Cr.....	94,778,951	96,771,397		
43. Audited accounts and wages payable.....	554,236,709	468,738,227		
44. Miscellaneous accounts payable.....	254,039,832	227,714,299		
45. Interest matured unpaid.....	23,857,707	24,745,321		
46. Dividends matured unpaid.....	7,288,211	7,017,755		
47. Unmatured interest accrued.....	70,912,496	70,799,141		
48. Unmatured dividends declared.....	25,551,327	20,168,412		
49. Accrued accounts payable.....	227,029,652	180,945,807		
50. Taxes accrued.....	857,123,407	660,733,212		
51. Other current liabilities.....	87,633,779	81,296,320		
52. Total current liabilities (items 41 to 51).....	2,209,002,861	1,842,613,260		
53. Analysis of taxes accrued:				
53-01. U. S. Government taxes.....	669,975,828	484,148,373		
53-02. Other than U. S. Government taxes.....	187,147,579	176,584,839		
54. Other unadjusted credits.....	283,136,413	275,534,138		

<sup>1</sup> Represents accruals, including the amount in default.

<sup>2</sup> Includes payments of principal of long-term debt (other than long-term debt in default) which becomes due within six months after close of month of report.

<sup>3</sup> Includes obligations which mature not more than one year after date of issue.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission.

Subject to revision.





*The Southeast...*

**A Prime Source  
of the Nation's Urgent  
Building Needs**

AMERICA'S building industry draws heavily on the rich timber resources and extensive processing plants of the Southeast. Lumber, shingles, lath and other building materials are moved promptly and efficiently over *Coast Line's* modern facilities.

ATLANTIC  
**COAST LINE**  
RAILROAD

# SOLID BEARING ASSEMBLIES Cost Less . . . Save Dollars On The Road, Too!

***Average 100,000 pounds less dead weight  
for each 100 cars in movement***

A slight 8° curve (716 ft radius) doubles the train weight effect for all cars on the curve. And a 1% grade actually quadruples the normal locomotive power required to move a given weight of train. No wonder one operator has said he would gladly pay one dollar more for every pound taken off a car.

But low-cost solid-type bearing assemblies, with minimum pounds-per-ton resistance during acceleration and running, save from 750 to over 1500 pounds per

car in weight of bearing assemblies alone. That's an average saving of over 50 tons excess dead weight for each 100 cars in movement.

This lighter weight of solid bearings helps all the time, too—not only on grades and curves. The maximum tractive effort of locomotives is put to the business of moving goods. Railroads keep fuel costs down, build up ton-miles of revenue.



**MAGNUS METAL CORPORATION**

Subsidiary of NATIONAL LEAD COMPANY

Be sure to get your free copy of the *facts*

See why America's Railroads have standardized on Solid Bearings

HERE'S A PARTIAL LIST OF CONTENTS

- ... Why Solid Bearings are UNRESTRICTED AS TO SPEED AND LOAD.
- ... The facts about FRICTION—Solid Bearings require minimum power over a whole run.
- ... What LIGHTER WEIGHT of Solid Bearings really means in practical train operation.
- ... How Solid Bearings increase the ton-miles potential AT MINIMUM COST.

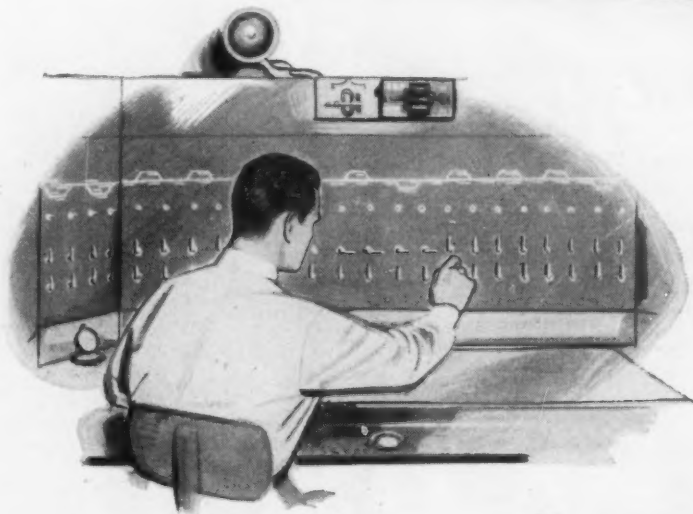
A free copy is yours on request. Just write a post card or letter to Magnus Metal Corporation, 111 Broadway, New York 6, N.Y.







## Triple Threat to Traffic Tie-Ups



Our vast system of signals . . . both visual and verbal . . . is one of the most important reasons why everything *really moves* on the MO-PAC.

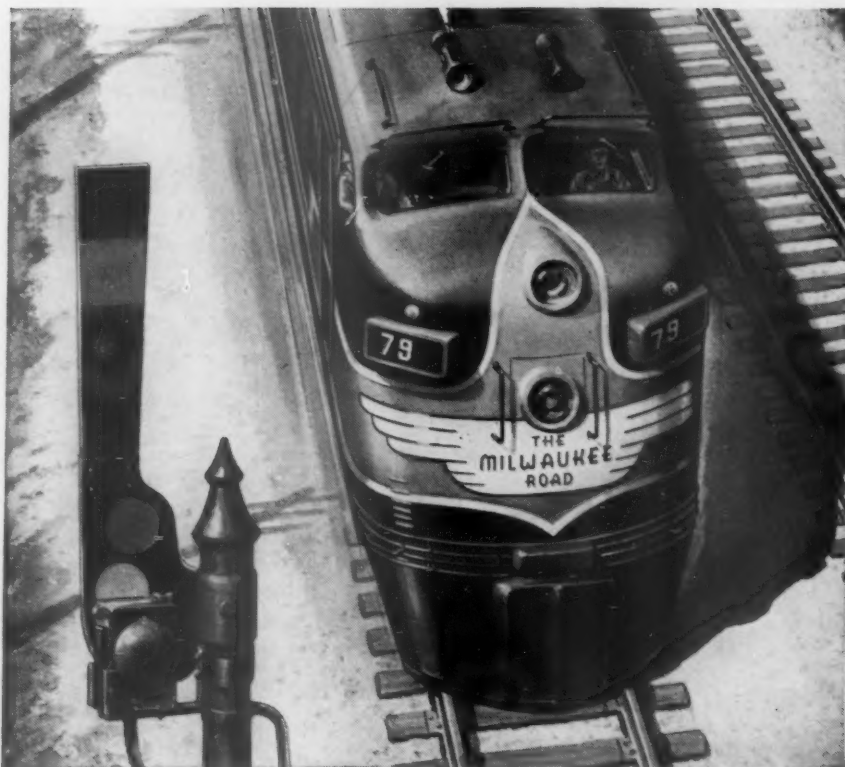
By the end of the current year our entire line to the Southwest, from St. Louis to Houston and San Antonio and the westward line from St. Louis to Kansas City, Omaha, and Pueblo will be protected by *Centralized Traffic Control* or *Automatic Block Signals*. MISSOURI PACIFIC also has more *Train Radio-Telephone* communication than any other railroad in the world . . . enabling the engine crews on every diesel-powered train to be in constant communication with other trains within the talking-listening area.

**MISSOURI  
PACIFIC  
LINES**

1851  
A CENTURY  
OF SERVICE  
1951



**SERVING THE WEST-SOUTHWEST EMPIRE**



Automatic Block Signals and Centralized Traffic Control speed traffic.

## CLEAR BOARD!

That's railroad talk for clear track ahead—let 'er roll! And that sums up The Milwaukee Road. Now in tip top shape—ready, willing and able to move the nation's traffic with safety and dispatch.

A progressive management and an alert personnel are contributing

their share to better railroading. Good plant, good people—a combination that's bound to benefit shippers and travelers.

Travel with pleasure—ship with confidence via The Milwaukee Road. Milwaukee agents are in principal cities. Write, phone or call.

## SHIP—TRAVEL

Look at the map!



# THE MILWAUKEE ROAD

ROUTE OF THE  
HIAWATHAS

CHICAGO, MILWAUKEE, ST. PAUL AND PACIFIC RAILROAD

(Continued from page 104)

ber 14 and 15. Participating in the discussion with seven railroad men were eight chief engineers of materials handling equipment suppliers.

The railroad men felt that, although they have achieved some success in cost cutting through widespread mechanization of many freight stations, materials handling equipment is not bringing in the returns promised, and gave a number of reasons for this. Manufacturers' representatives admitted to some shortcomings in their services, and said the handling of l.c.l. was much more complex than they had realized, but still were of the opinion that either present equipment could do more than it is doing or that other equipment could be devised to handle the traffic more economically and expeditiously.

The carrier representatives made it clear that they desire a greater volume of l.c.l. traffic than they are now getting. To make the traffic more profitable, they said, and to provide the better service (including less loss and damage) which should lead to increased volume, the railroads are looking for better methods of handling the traffic on station platforms and in transfers. Mechanization, while it has helped keep down handling costs, has not brought about all the benefits promised—partly because some equipment has required expensive maintenance.

Engineers of equipment manufacturers made it clear that they know there is "room for improvement" in their programs of educating users' forces in care of equipment. They pointed out, however, and the railroaders agreed, that maintenance of equipment as performed by some railroads leaves something to be desired, and that frequently the carriers are maintaining equipment which should be junked.


The manufacturers suggested that a more realistic equipment replacement program would pay dividends to the railroads.

The equipment manufacturers agreed that there was no one handling device adaptable to cut costs at all stations. Since very few palletized l.c.l. shipments are being received at stations, although the railroads are prepared to handle such shipments, it is impossible to tell, the carriers said, how much palletization of l.c.l. by shippers would help cut costs.

On the subject of palletized containers the carriers agreed that only in special movements, where a return load can be secured, have they proved practicable, so far. The carriers said that, for general service, where the containers are loaded at a station, instead of at the shipper's place of business, the variety of sizes of freight make it impossible to utilize fully the cubic capacity of the containers. Consequently, they are not considered economical in handling l.c.l.

Several railroads have considered adopting the belt or live roller con-





*If they came  
in a  
Jewel Box—  
they couldn't be  
Finer!*

use *genuine* **BALDWIN DIESEL PARTS**

BALDWIN DIESEL BEARINGS, both the thin-shell type for the latest model engines—and the heavier, precision-type bearing for older engines, are now available with improved copper-lead surfaces for longest possible useful life. So always specify them for consistent peak performance.

Seven conveniently located warehouses coast-to-coast are geared for fast service in emergencies—*any time.*

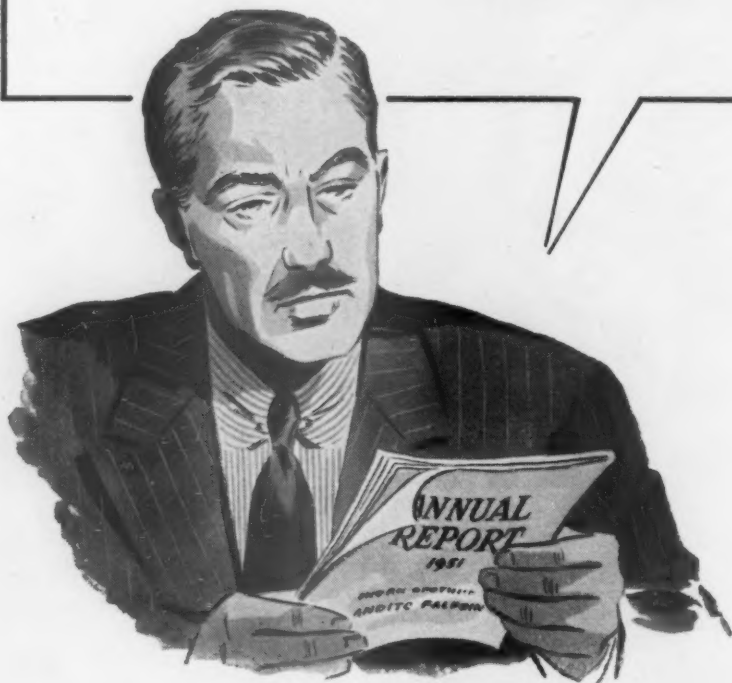


**BALDWIN-LIMA-HAMILTON**

PHILADELPHIA 42, PA.

• OFFICES IN PRINCIPAL CITIES

## A DIESEL FIRE SHOWS UP HERE



Almost every Diesel locomotive fire represents four losses:

1. The equipment loss caused by the fire itself
2. The loss created by a tieup all along the line
3. The cost of repairing the Diesel
4. The loss in operating revenue

You can prevent all four losses by doing one thing:

**INSTALL PYRENE DIESEL FIRE-FIGHTING SYSTEMS**  
*First Choice* OF AMERICA'S RAILROADS



T.M. Reg. U.S. Pat. Off.

**PYRENE MANUFACTURING COMPANY**

678 Belmont Avenue, Newark 8, New Jersey

Affiliated with C-O-Two Fire Equipment Co.

Pyrene Manufacturing Co. of Canada, Limited: 91 E. Don Roadway, Toronto  
The Pyrene Company, Limited: 9 Grosvenor Gardens, London, S.W. 1

veyor as a handling tool. To date, local operating conditions and the relatively high cost of equipment have precluded any installations of such equipment.

One of the troubles with the burden carrier, widely used in handling l.c.l., railroaders said, is that while such a vehicle is being loaded or unloaded, the power unit is unproductive. They suggested a unit of some sort with detachable platform. The equipment manufacturers stated that such equipment is available but as yet is little used by railroads.

### Knudson Urges Ports Be Kept "Uncongested"

The "urgent necessity" for keeping ports open and uncongested at all times so as to be ready for any eventuality was stressed by Defense Transport Administrator James K. Knudson in a November 15 speech before the Virginia World Trade Conference at Old Point Comfort, Va.

To help build up foreign trade, ports should be made more attractive to potential patrons by continued modernization of piers and other port facilities, and adapting them for transshipment of truck traffic, Mr. Knudson said.

Failure of coastwise and intercoastal shipping to regain its prewar importance was hit by Mr. Knudson. He said some water carriers, like some land carriers, have followed the policy of "selectivity" in accepting traffic, and said Congress should give the Interstate Commerce Commission power to revoke water carriers' certificates.

### P. & N. Discontinues Passenger Operations

The Piedmont & Northern by authority of the South Carolina Public Service Commission discontinued its passenger operations on November 1. Up to, and including, October 31, the road had been operating two northbound and two southbound passenger trains daily between Spartanburg and Greenwood. The South Carolina division of the road will abandon its overhead electrical lines and embark upon a program of complete dieselization.

### Mechanically Refrigerated Milk Transport Lowers Cost

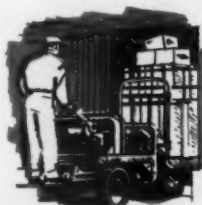
The Bellows Falls Co-Operative Creamery, which installed U.S. Thermo Control Company's mechanical refrigeration units in Boston & Maine milk cars at Bellows Falls, Vt., on May 3, as noted on page 100 of the May 14 *Railway Age*, reports a drop of at least 80 per cent in costs from those incurred when ice refrigeration was in use. In reply to an army research engineer's query concerning this operation, Clark H. Bowen, general manager of the dairy company, (Continued on page 113)



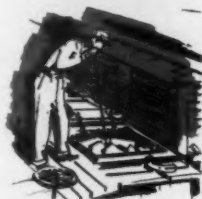


# Smoother Sledding for Santa Claus!

## How the NEW in New York Central speeds Christmas freight



**SAVING A DAY ON THE WAY!** Via *Pacemaker* freight, thousands of tons of Christmas merchandise move from factory to warehouse to retail outlet. Traveling in special, smooth-riding, high-speed cars, they save a day between East and Midwest—at regular less-than-carload rates.



**CHRISTMAS FOODS, IN A HURRY!** Traveling faster, refrigerator cars can go farther between re-icings. So Central makes one new icing plant take the place of two former ice stations. Western turkeys, vegetables, fruits now reach eastern holiday tables with one less stop by New York Central.



**HOLIDAYS AND EVERY DAY,** the *new* in New York Central works for you. Over two and a quarter *million* new diesel horsepower. Fifty-nine thousand new freight cars. Vast freight yard improvements. All help to handle your shipments faster, with an all-weather dependability no other type of transportation can match!



# NEW YORK CENTRAL

The Smooth Water Level Route

How much money are you losing here?



A realistic answer to that question may well run into five or even six figures per winter. Frozen steam lines not only cost money to thaw, they rob you of important revenue by keeping cars out of service.

*Yet, much of this loss is completely unnecessary.*

Because your frozen pipe problem can be almost 100% solved—through use of Honeywell Car Heating Systems! This is possible because steam is exposed to icy air only through short lengths of pipe. Moreover, you save up to 40% on steam. This cuts down on fuel consumption, helps you heat longer trains, means fewer trains are late.

And Honeywell Systems are much simpler in construction. This reduces heating system inspection and maintenance. Then, too, Honeywell Systems make your passengers

much more comfortable. Honeywell *electronic* thermostats provide *really* accurate and reliable temperature control.

How much money are *you* losing by putting up with old-fashioned car heating systems? The figure may be much higher than you think! Better take steps now to find out how much Honeywell Car Heating Systems can save *your* railroad. So call your local Honeywell office. There are 91—spread across the nation. Or send the coupon you'll find on the opposite page.

MINNEAPOLIS  
**Honeywell**



*First in Controls*



(Continued from page 110)

wrote: "Our costs per month for refrigeration during the war in summer months, not including depreciation on the units, has been reduced from monthly average cost of ice \$2,500 to \$500 cost of gasoline and oil." Mr. Bowen said that "during warm summer months it took about four tons of ice to each car with an average cost of \$25. Gasoline required to give us the same or better refrigeration in the mechanical unit for the same run costs about \$3."

Since May, when the units were installed, Mr. Bowen said they had not had a single mechanical failure en route.

### D.T.A., "Agriculture" Enter Warehouse Pact

The Defense Transport Administration and the Production and Marketing Administration of the Department of Agriculture have entered an agreement and made delegations of authority with respect to their warehousing and storage functions.

Generally, the agreement provides that D.T.A. will have jurisdiction over storage and warehousing facilities, except that most facilities for storing and warehousing agricultural commodities and food products will be under P.M.A. jurisdiction.

### October Employment

Railroad employment decreased 1.14 per cent — from 1,286,469 to 1,271,809 — from mid-September to mid-October, and the mid-October total was 1.53 per cent below that of October 1950, according to the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission.

The index of employment, based on the 1935-39 average as 100, was 120.6 for October, compared with 123 for the previous month and 122.5 for October 1950.

October employment was above that of the previous month in only one group, and was lower in six groups. The increase, amounting to 0.01 per cent, occurred in the group embracing executives, officials and staff assistants.

Decreases in the other six groups ranged from 3.16 per cent in the maintenance of way and structures group to 0.33 per cent for transportation employees in train and engine service.

As compared with October of last year there were increases in three groups and decreases in four. The highest increase, 2.23 per cent, was in the executives, officials and staff assistants group. Other increases were 1.54 per cent for professional, clerical, and general employees, and 0.36 per cent for yardmasters, switchtenders, and hostlers. The largest decrease

(Continued on page 116)

## How much more money will you lose here?



Your answer to this question depends on how much longer you're willing to put up with out-of-date temperature control equipment in your shops, stations, offices and other buildings.

Such equipment, as you know, often permits overheating which wastes a good deal of costly fuel, and makes your occupants uncomfortable and lessens the efficiency of your employees.

With Honeywell's new Weatherstat Control System you can virtually eliminate underheating and overheating — can provide uniform comfort at the lowest possible fuel cost! The Weatherstat, mounted *outside* your building, compensates for effects of sun, wind, air temperature and other weather factors, and meters heat in exact proportion to need.

For full facts on Weatherstat Control System, send the coupon below today!

Please send me complete information on

☐ Weatherstat Control ☐ Honeywell Car Heating Systems

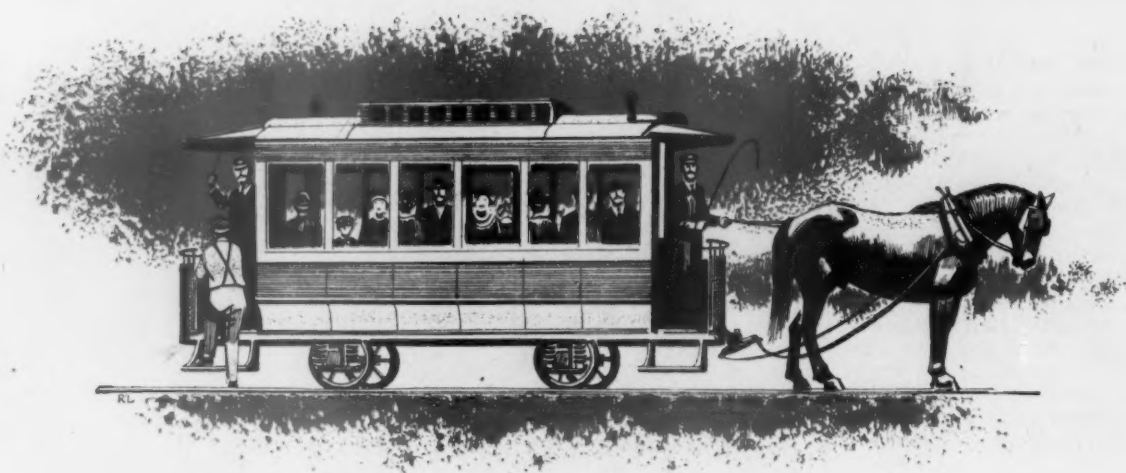
Name \_\_\_\_\_ Firm \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

Mail this coupon today to Dept. RA-12-200, Minneapolis 8, Minnesota

# Honeywell

*First in Controls*



## *When they said* **GOOD-BYE TO HORSE-CARS...**

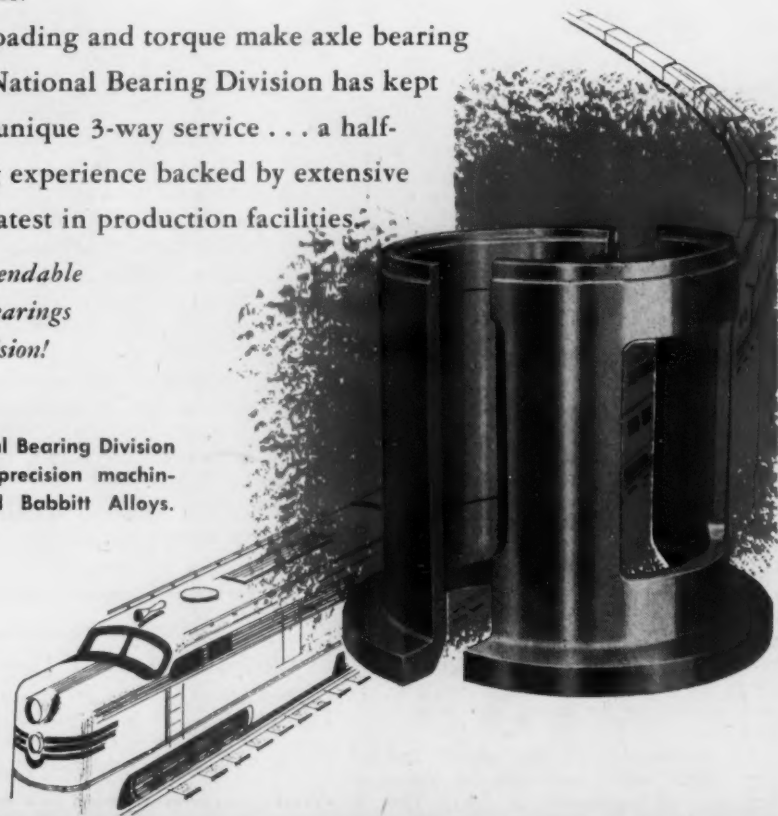
Back in the '90's a new-fangled contraption that ran on track—minus a horse in front—was the talk of the town. Even in those days, new speeds and loads presented axle bearing problems. It's on record that National Bearing Division was "in on the ground floor" with engineering service that solved such problems.

Today's higher axle speeds, loading and torque make axle bearing problems even more complex. National Bearing Division has kept pace through the years with its unique 3-way service . . . a half-century of priceless engineering experience backed by extensive metallurgical research and the latest in production facilities.

*That's why you get trouble-free, dependable service when your locomotive axle bearings are made by National Bearing Division!*

**Write for FREE catalog . . .**

A complete and pictorial story of National Bearing Division facilities, from research through final precision machining, including sections on Bronze and Babbitt Alloys.



AMERICAN

**Brake Shoe**

COMPANY

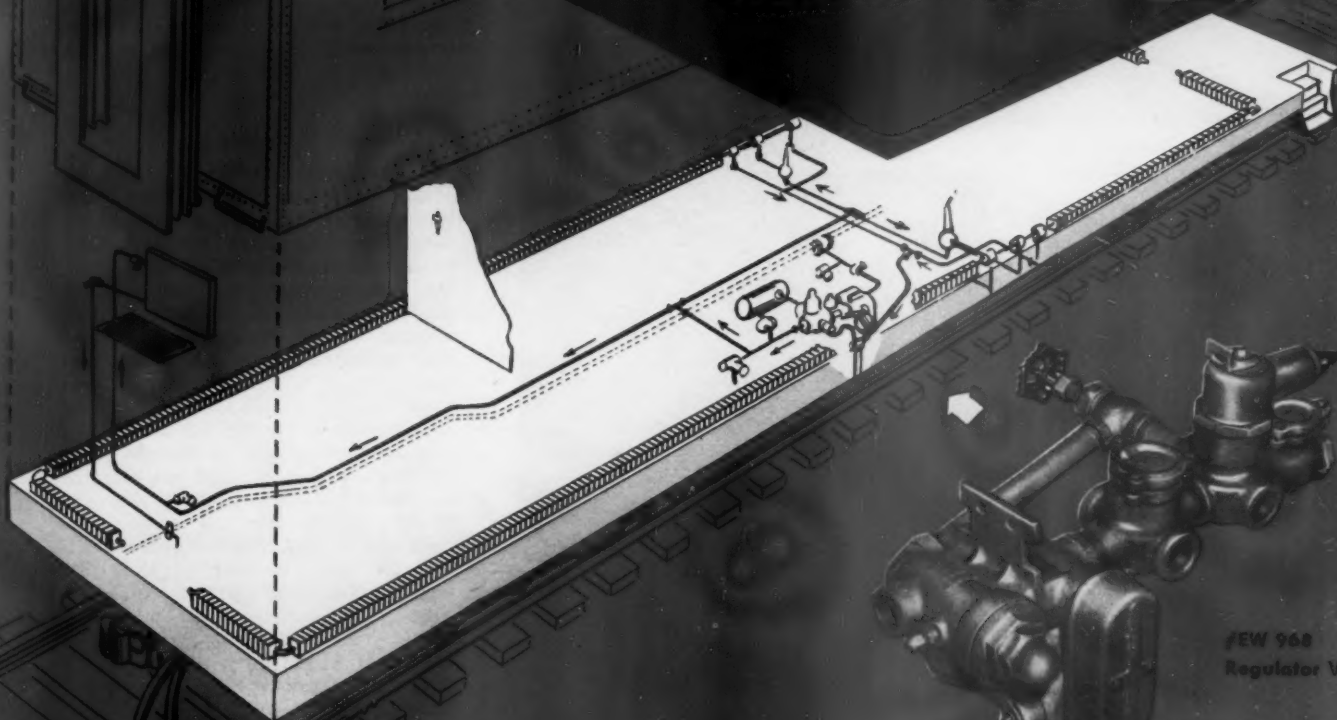
**NATIONAL BEARING DIVISION**

4937 Manchester Avenue • St. Louis 10, Mo.

PLANTS IN: ST. LOUIS, MO. • MEADVILLE, PA. • NILES, OHIO • PORTSMOUTH, VA. • ST. PAUL, MINN. • CHICAGO, ILL.



# GIVE OLD CAR HEATING SYSTEMS A FACE LIFTING!



#EW 968  
Regulator Valve

## the **B.T. Unizone** System

### Attract Passengers... Build Revenue

Yes... you can modernize with "B. T. Unizone" system of radiation and you can do it quickly and easily! Vapor's "B. T. Unizone" system reduces the need for undercar piping to less than any system now in use.

The "B. T. Unizone" regulator valve #E'V 968 is designed to reduce the pressure of steam taken from the train line and to maintain a constant supply of steam in the loop, also provide low pressure steam and supply hot water needs. The "B. T. Unizone" plug-in type thermostat provides thermostatic temperature controls and because of its plug-in feature can be easily inspected or replaced. When maintenance is necessary it takes only minutes to remove 4 unions from this simplest of piping systems, to inspect or replace the Unizone regulator valve. Get the facts. Send for Bulletin #562... the Vaporway to build passenger revenue and good will. These two simple parts alone make up the entire operating equipment for coach or open body car temperature and steam pressure control, and heat the wash water also.

Plug-in  
Type Thermostat



**Vapor Heating Corporation** 80 EAST JACKSON BOULEVARD, CHICAGO 4, ILLINOIS

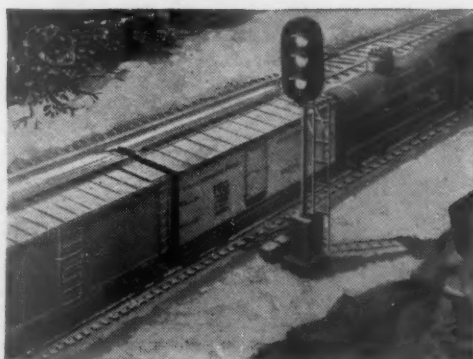
NEW YORK • ST. PAUL • DENVER • ST. LOUIS • PORTLAND • WASHINGTON • PHILADELPHIA • SAN FRANCISCO • JACKSONVILLE • RICHMOND • HOUSTON • MONTREAL • LOS ANGELES

Here's what America's railroads  
have added in the last six years:



13,000 new,  
more powerful  
locomotive  
units

400,000  
new, better  
freight cars



and  
\$2 Billion  
worth of new  
rail, terminals,  
signals and  
other facilities

...to help make America's basic  
transportation more efficient than ever!

Listen to *THE RAILROAD HOUR*  
every Monday evening on NBC.



**ASSOCIATION OF AMERICAN RAILROADS**

WASHINGTON 6, D. C.

(Continued from page 113)

during the year was 4.03 per cent in the maintenance of way and structures group, and the smallest, 0.61 per cent, was among train and engine service employees.

#### Report on Accident At New Haven, Ind.

The Interstate Commerce Commission has found that the side collision between a Wabash passenger train and a New York, Chicago & St. Louis freight train at New Haven, Ind., on July 16, was caused by "failure to operate the Wabash train in accordance with a signal indication." The report, No. 3415, was by Commissioner Patterson, and the investigation out of which it came was conducted by the Bureau of Safety.

#### Site of the Accident

The accident occurred at a crossing of the Wabash and Nickel Plate lines, which run side by side in approaching the intersection from the east. The westbound trains involved were making that approach, and the commission suggested that the engineer and fireman of the Wabash train might have mistaken for their own a Nickel Plate signal which displayed "proceed," the route over the crossing having been lined for the N.K.P. train.

It has been about 11 months since the Wabash engineer had run over the line, and his fireman was a new employee, having been in service less than two months. The Wabash conductor, the only member of the crew regularly assigned to the train, was killed in the accident. It also resulted in the death of two passengers and an employee not on duty, and in the injury of five passengers and eight employees.

New Haven is the Wabash's designation for the interlocking station at the crossing. The Nickel Plate calls it NE Tower. The crossing is located about 5½ miles east of Fort Wayne, Ind., the Wabash line being part of that road's Montpelier Division, a single-track line over which trains are operated by timetable, train orders and a manual block system. The Nickel Plate line, part of that road's Fort Wayne division, is also a single-track line over which trains are operated by signal indications.

The lines are parallel, at a distance of 39 ft., between points approximately 1.83 mi. and 2,145 ft. east of the crossing. Then the Wabash line diverges to describe an arc as it runs to the crossing. The tracks of the two roads cross at an angle of 30 deg.

Movements over the crossing are governed by interlocking signals. Automatic signal 880 and semiautomatic signals 10R, governing westbound movements on the Wabash, are located, respectively, 4,544 ft. and 378 ft. east of the crossing. These signals are of the searchlight type and are



# EXCLUSIVE

**FLUID DRIVE**  
reduces  
clutch wear

**AUTOMOTIVE TYPE  
SAFETY BRAKES**  
smooth brake action

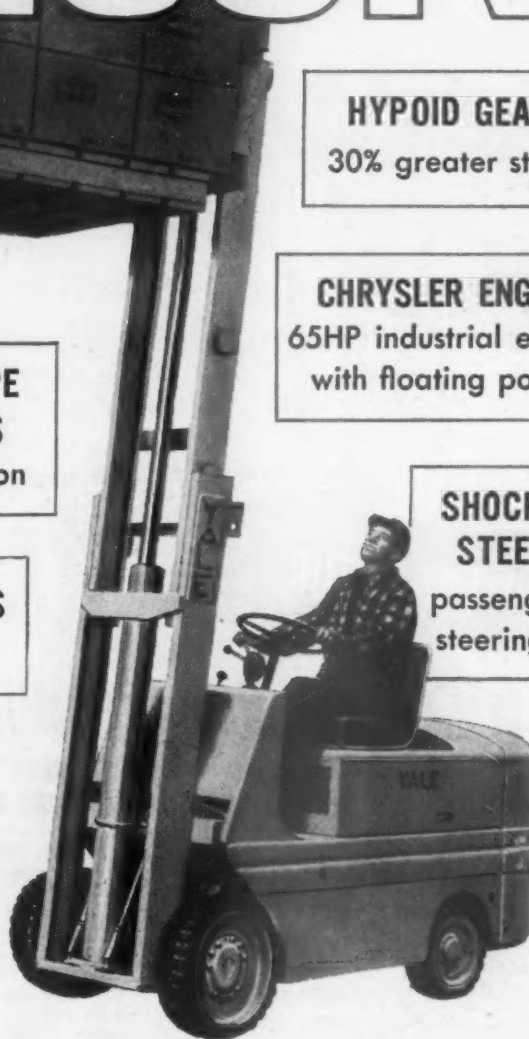
**ROLLER CARRIER UPRIGHTS**  
low friction—long life

**HYPOID GEARING**  
30% greater strength

**CHRYSLER ENGINE**  
65HP industrial engine  
with floating power

**SHOCKLESS  
STEERING**  
passenger car  
steering ease

Only **YALE**  
combines all these  
modern engineering  
achievements in one  
superior gas truck!



**NOW READY FOR YOU...developed to peak efficiency  
after 2 years of intensive on-the-job testing**

**J**UST LOOK at the engineering and technical improvements built into this new YALE Fork Lift Gas Truck!

Here are exclusive features that will bring more time-saving, man-saving, money-saving advantages to your materials handling than was ever before possible!

In every vital part of this truck you get the finest new developments in automotive engineering—every part built for years of hard service—every part tested and re-tested under rugged on-the-job conditions.

That's why today you get smooth, powerful gas truck operation day-in day-out. On steep ramps, rough roadways, in any weather—this YALE Gas Truck *delivers*, moves, lifts and stacks the goods. Let us show you exactly *how* YALE can accomplish all of this in your plant. Write for the facts today.

*Capacities up to 10,000 pounds*

**THE YALE & TOWNE MANUFACTURING COMPANY**

In Canada write The Yale & Towne Manufacturing Company, St. Catharines, Ontario.

YALE is the registered trademark of The Yale & Towne Manufacturing Co.

**WRITE TODAY FOR FULL INFORMATION**

**The Yale & Towne Manufacturing Co., Dept. 4812**  
Roosevelt Boulevard & Haldeman Avenue, Phila. 15, Pa.

I am interested in cutting my materials handling costs.

\_\_\_\_ Please have your local representative call on me.

\_\_\_\_ Please send me FREE detailed literature.

Name \_\_\_\_\_

Company \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

# YALE

**MATERIALS HANDLING EQUIPMENT**  
Philadelphia 15, Pa.

**Towmotor Mass Handling Triples Storage Capacity In Modern Warehouse**

PT. WORTH, TEX.—(TNS)—Stacking heavy cars ceiling high has tripled storage capacity, and increased handling efficiency in the modern warehouse.

**Production Costs Cut 60% By Towmotor Mass Handling**

DEPT. MICH.—(TNS)—Eliminating handling has resulted in control. Will help you operate more smoothly—and you in applying.

**INCREASED PRODUCTION IS RESULT OF TOWMOTOR MASS HANDLING EFFICIENCY**

TRENTON, N. J.—(TNS)—Productivity when a fleet of Towmotor trucks at a plant today? Economically. Anticipate the economic mechanism.



**The NEW TOWMOTOR...**

## industry's handling headliner!

There's nothing but good news about handling costs when the NEW Towmotor line-up makes the headlines. Five new Towmotor models add greater-than-ever versatility to every phase of handling in America's most important industries. New features assure greater maneuverability; new design provides increased stability with full rated loads. Pneumatic, cushion or solid rubber tires provide speed with safety over any type of surface, inside or out. Capacities: 2,000-3,000 and 4,000 lbs. Complete details of the NEW Towmotor are clearly shown in a new 15-minute film, "WHAT MAKES IT TICK." It's available now for a showing in your office at your convenience. Plan now to see it. *Send the coupon today!*

### CHECK THESE HEADLINE FEATURES

- Shorter wheel base increases maneuverability
- Larger tires assure easier handling
- Larger steer wheels for better control
- Quiet as a deluxe car
- Double Universal joint eliminates shock
- Heavy duty, air-cooled clutch
- Forced feed lubrication
- Specially engineered Towmotor transmission; 2 speeds forward and reverse
- Powerful hydraulic brakes
- Engineered for constant, 'round-the-clock service on heaviest lifting jobs

**SEND COUPON TODAY** for a showing of "What Makes It Tick" in your office. 15 minutes of helpful information with no obligation to you!



### FORK LIFT TRUCKS and TRACTORS

RECEIVING • PROCESSING  
STORAGE • DISTRIBUTION



HOW MANY PEOPLE HAVE YOU TALKED TO ABOUT AMERICANISM TODAY?

#### TOWMOTOR CORPORATION

Div. 21, 1226 E. 152nd Street, Cleveland 10, Ohio

I want more information about the NEW Towmotors. I would like to see "What Makes It Tick" in my own office. Please send details.

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Representatives in all principal cities in U. S. and Canada

approach lighted. They are part of an automatic block-signal system which extends westward from New Haven.

Automatic signal 363.3 and semiautomatic signal 3R, governing west-bound movements on the Nickel Plate, are located, respectively, 2.17 mi. and 457 ft. east of the crossing. These signals are of the color-light type and are continuously lighted. They are part of a traffic-control system which extends from a point 84.3 mi. east of New Haven to a point 1.6 mi. west thereof.

### Control Circuits

The control circuits are so arranged that when the block of signal 880 is unoccupied and signal 10R indicates "proceed," signal 880 also indicates "proceed." When the block of signal 880 is unoccupied and signal 10R indicates "stop," signal 880 indicates "approach." On the Nickel Plate, when the block of signal 363.3 is unoccupied and signal 3R displays a "proceed" aspect, signal 363.3 indicates "proceed."

The interlocking apparatus provides mechanical, time, route, and indication locking. The mechanical locking and control circuits are so arranged that a controlled signal can display an aspect of "proceed" only when conflicting routes through the interlocking are unoccupied and all signals governing movements through conflicting routes are displaying "stop" aspects. If a controlled signal displays a "proceed" aspect, the route cannot be lined for a conflicting movement until the train for which the signal was displayed has passed through the interlocking limits or until a time interval has elapsed after the signal has been caused to display a "stop" aspect.

The Wabash train, No. 13, consisted of a steam locomotive and four all-steel cars. The Nickel Plate train, No. 51, consisted of a steam locomotive, 63 freight cars and a caboose. The former, as the commission put it, "passed signal 880, which indicated 'approach,' passed signal 10R, which indicated 'stop,' and while moving over the crossing . . . at an estimated speed of five m.p.h. the third car was struck by No. 51." The latter was traveling 45 m.p.h. The weather was clear at the time of the collision which occurred at 9:22 p.m.

The Wabash train's third car, a coach, was "demolished," and the fourth car was "badly damaged." The first 10 cars and the front truck of the eleventh car of the Nickel Plate train were derailed.

Because of the curvature of the Wabash track and buildings adjacent to it, signal 10R was not visible to the enginemen until the engine was within a few hundred feet of the signal, the commission said. It went on to report the Wabash engineer's testimony to the effect that his fireman had read signal 10R as "all clear" as the train was approaching a station building lo-

(Continued on page 122)





*At Your Service*

**O**UR engineering and production specialists and our staff of trained service men are always available to our customers for advice and assistance. Let us help solve your problems concerning new equipment and the modernization of your present locomotives and cars.

### **For More than Forty Years...**

COMMONWEALTH CAST STEEL PRODUCTS for all types of locomotives, also for passenger cars and freight cars, have had an outstanding reputation for sound engineering and high quality. They have contributed much toward increased life of railroad equipment, lower maintenance costs, and greater safety of train operation.

Specify COMMONWEALTH PRODUCTS.

## **GENERAL STEEL CASTINGS**

GRANITE CITY, ILL. • EDDYSTONE, PA.

**AID TO**

# **EFFICIENCY!**

● THE BARCO SWITCH ENGINE RECORDER is a modern "time study" instrument that makes a chart record of what your switch engines are doing each day. These simple, accurate instruments provide Operating Departments with FACTS needed to:

1. Eliminate Many Delays.
2. Reduce Overtime Costs.
3. Get More Work Handled.

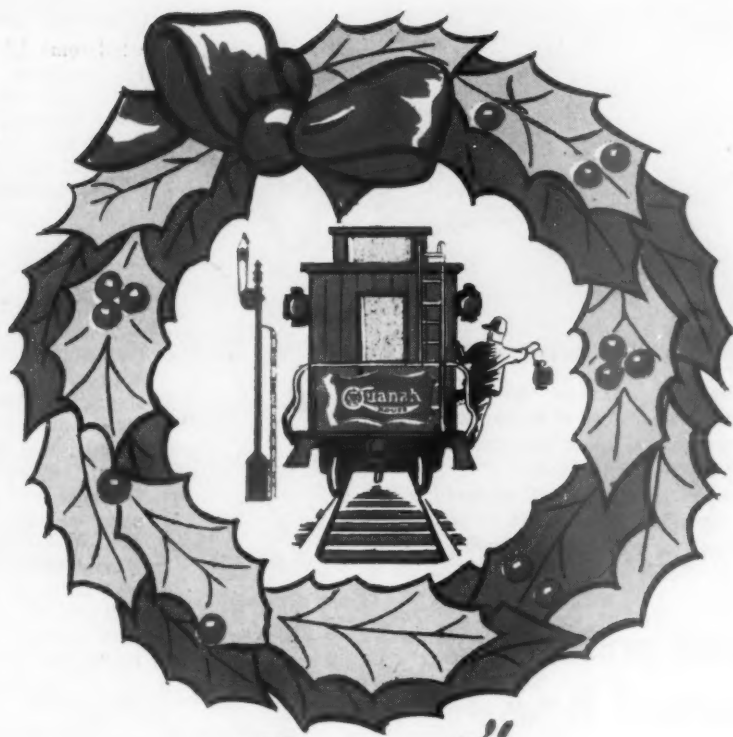
All over the world, railroads are using Barco Recorders as AN AID TO EFFICIENCY. For a better return on your *investment*, get in touch with Barco today. BARCO MANUFACTURING CO., 1800N Winnemac Ave., Chicago 40, Ill.

## **BARCO SWITCH ENGINE RECORDER**



FREE ENTERPRISE—THE CORNERSTONE OF AMERICAN PROSPERITY





*Season's  
Greetings*

#### THE TRANSCONTINENTAL CUT-OFF

- \*Cuts time (Diesel Powered, Fast Schedules, No Large Terminal Delays)
- \*Cuts distance (Direct, Short Mileage Routes, By-Passing Congested Areas)
- \*Cuts damage (Impact Recorder Tested)



Your patronage is constantly solicited  
and always appreciated.

#### QUANAH, ACME & PACIFIC RAILWAY COMPANY

W. L. Richardson, Vice President — Traffic  
QUANAH, TEXAS

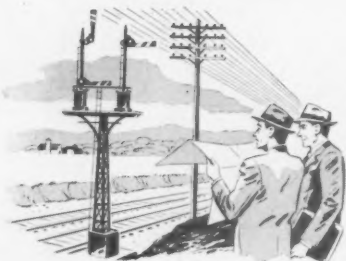
QA&P — FRISCO — AT&N (one system) serving nine states with over 5,000 miles of railroad



**Look at Graybar methods** — An intimate knowledge of supply sources . . . a nation-wide network of warehouses . . . up-to-the-minute inventory methods — all these stand behind Graybar's ability to deliver the goods.

When you order from Graybar, you take full advantage of efficient, shortage-beating distribution methods — methods that, even today, help assure our railway customers of the fastest possible deliveries of vital electrical supplies.

## To speed procurement of electrical items — Look behind the Graybar tag



**Look at Graybar men** — Graybar Railroad Specialists will be glad to give you technical assistance on any electrical problem. Long familiarity with electrical products enables them to help you get jobs done efficiently and without delays.

Local Graybar Representatives — always close at hand — can furnish up-to-the-minute forecasts of local delivery conditions and material availability.



**Look at Graybar materials** — Graybar distributes the products of more than 200 of the nation's leading manufacturers. As an all-inclusive source of "everything electrical" Graybar can measurably simplify procurement of telephone and tele-

graph equipment . . . pole-line supplies . . . indoor and outdoor lighting . . . motors and power supply items.

A comprehensive catalog and quotation service covering them all is constantly available to help you compile job specifications and estimates. Graybar Electric Co., Inc. Executive Offices: Graybar Building, New York 17, N. Y. 193-2012

OFFICES AND WAREHOUSES IN OVER 100 PRINCIPAL CITIES

100,000 ELECTRICAL ITEMS ARE DISTRIBUTED

THROUGHOUT THE NATION

...VIA

**Graybar**



(Continued from page 118)

cated some 1,500 ft. east of the signal. The engineer also said that he too had "observed that the signal indicated 'proceed.'" As for Nickel Plate signal 3R, he "glanced" at it, but "did not notice the aspect displayed."

Soon afterward the engineer's view of the Wabash signal was obstructed by the front of the engine, but he reported that, as he passed it, it was again visible "momentarily," and that it indicated "proceed." The fireman, so he said, called a second "all clear" to the engineer. He also testified that he, too, "glanced" at the Nickel Plate signal, but "did not notice the aspect displayed." Other testimony of the fireman was to the effect that he was having difficulty with the locomotive's injector, and this occupied his attention after he had taken one look at signal 10R. The flagman of the Wabash train testified that the conductor, who was killed in the accident, had called "all clear" after looking at signal 10R through an open door of the train's fourth car.

### "Proceed" Aspect

Testimony of the Nickel Plate engineer was that signal 363.3 gave him a "proceed" aspect; and that he immediately placed his brake valve in emergency position when he noticed that signal 3R had flashed to "stop." The Nickel Plate train dispatcher at Fort Wayne said that his indicators showed signal 3R in the "proceed" aspect for "several minutes" after No. 51 entered the interlocking's approach circuit; and in the stop aspect only "several seconds" before the train passed the signal.

In tests made after the accident, "no condition was found which would have caused an improper operation of the signal system," the report said. It also summarized results of other tests made to determine locations from which the signals were visible. The latter, along with the evidence as to the "inexperience" of the Wabash fireman and the fact that the engineer had not made a like trip in 11 months, led the commission to advance its mistaken-signal theory.

## RAILWAY OFFICERS

### EXECUTIVE

Frank J. McCarthy, special representative of the legal department of the PENNSYLVANIA at Washington, D. C., has been promoted to assistant vice-president — Washington. Mr. McCarthy's duties in his new position have been enlarged to include a broader representation of the interests of the Pennsylvania in Washington, including work for other departments, although he will continue to report to



**Now in its 12th year of service**

# **"Santa Fe 39"**

**fastest service... ONLY overnight freight**

**Chicago to Kansas City**



A success from the day it started!

"Santa Fe 39" has a 12 year record of fast, dependable service that is made to order for shippers who want their freight moved in a hurry from Chicago to Kansas City.

Carrying both carload and less-than-carload shipments, "Santa Fe 39" leaves Chicago daily at 6 PM, arrives Kansas City 7:30 AM the following morning.

A fast service, too, for freight moving from Chicago to Emporia, Arkansas City, Oklahoma City, Fort Worth, Dallas, Houston, Galveston and Beaumont.

For quick dispatch, for dependable service, ship via "Santa Fe 39". Ask your Santa Fe freight man for complete information.

F. H. ROCKWELL  
General Freight Traffic Manager  
Chicago, Illinois





## SERVES YOU RIGHT!

.... Put it to work—a CLARK fork-lift truck, that is; or a CLARK powered hand truck, or an industrial towing tractor—in your PLANT MAINTENANCE program, and it will *Serve You Right*, just as it *Serves You Right* in your materials-handling operations.

Take the CLARK fork-lift truck, for example: Gas-powered or electric battery-powered, it can be switched in a jiffy from handling materials to serving as a mobile shop elevator (see cut above). Or it can switch as easily into the role of an adjustable scaffolding for any kind of overhead work or repairs. Its ready adaptability makes it a valuable tool for grading, shoveling, snow removal, moving machinery—or for changing electric light bulbs! There's no end to its uses in the hands of an ingenious owner. Truly, it is the answer to the maintenance man's prayers, a joy to the efficiency expert, a boon to the safety engineer and the most profitable investment on the Treasurer's records.

**SEE FOR YOURSELF . . .** CLARK will exhibit and demonstrate some of its machines in January at the Plant Maintenance Show in Philadelphia. Do stop around at Booth 304 and see for yourself that each and every one of them **SERVES YOU RIGHT**.



CLARK EQUIPMENT COMPANY • Battle Creek 24, Mich.

Please send the following:

☐ Basic Facts    ☐ Condensed Catalog  
☐ Material Handling News

Name \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City and Zone \_\_\_\_\_ State \_\_\_\_\_

the vice-president—general counsel at Philadelphia. Mr. McCarthy was born at Indianapolis 46 years ago. He attended Notre Dame University and received a law degree from Indiana University. Entering railroad service in the Big Four shops at Indianapolis, he later became passenger representative of the New York Central and chair-



Frank J. McCarthy

man of the Associated Railways of Indiana. He joined the Pennsylvania at Washington in 1945 as special representative in the legal department.

**B. H. Decker**, appointed assistant to vice-president of the DENVER & RIO GRANDE WESTERN, as *Railway Age* announced on November 19, page 81, began his railroad career in 1913 with that road. He held clerical and engineering positions until 1915 when he joined the Union Pacific as telegraph operator. Mr. Decker worked in the engineering department at Pocatello, Idaho, and Denver, Colo., until 1917, when he joined the U. S. Army. He returned to the D.&R.G.W. in 1919



B. H. Decker

as telegraph operator and subsequently worked as car distributor, dispatcher and chief dispatcher at Soldier Summit, Colo. and Gunnison. From 1925 to 1936 he was trainmaster at various points in Utah and Colorado,

becoming assistant superintendent transportation at Denver in 1936. He was appointed superintendent at Salt Lake City in 1938, returning to the Army from 1942 to 1946. He was superintendent at Salt Lake City until his recent appointment.

## TRAFFIC

**John H. Kuntz**, general freight agent for the BALTIMORE & OHIO at Cincinnati, Ohio, has been appointed assistant freight traffic manager at Chicago, succeeding **Carl H. Groninger**. **Theodore J. Younker** succeeds Mr. Kuntz at Cincinnati. **George E. Dove** has been appointed general freight agent in charge of sales and service at Chicago, succeeding the late **R. J. Blagburn**. **Joseph R. Dryer** has been named assistant general freight agent at Chicago, succeeding Mr. Dove, while **Harvey R. McCorkel** has been appointed division freight agent to succeed Mr. Dryer. **George P. Schultz**, traveling freight representative, has been appointed district freight representative at San Francisco, Cal.

Mr. Kuntz started in the freight traffic department of the B. & O. in Cincinnati in 1924, and was transferred to Chicago in 1935. He was appointed assistant general freight agent at



**Spurs on steel cleats drive deep into floor and side walls from pressure...become almost a part of freight car...afford loadings 100% protection from shocks and switching impacts\*. Thousands of service trips prove this. Endorsed by re-order customers among leading Manufacturers and Railroads. Write NOW for all the facts.**

\*6 MPH speed impacts may be safely established as normal switching operation when PEYTON SPUR CLEATS are used.

**PEYTON SPUR CLEAT CO.**  
POST OFFICE BOX 4664 • DALLAS, TEXAS  
TELEPHONE TREMONT 6060

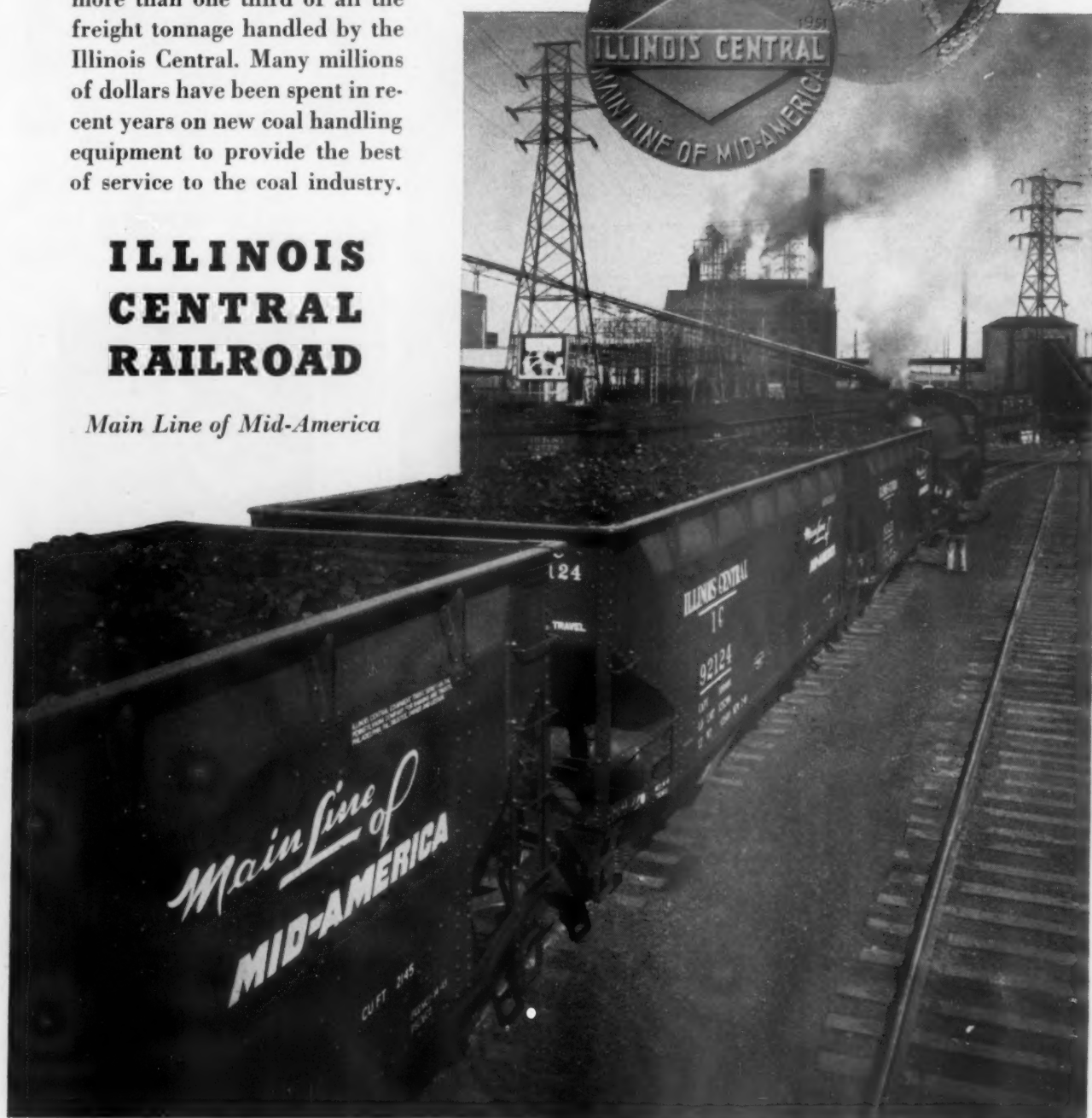


# Backbone of Industry

Coal, the fuel that furnishes the giant's share of the power of modern industry, represents more than one third of all the freight tonnage handled by the Illinois Central. Many millions of dollars have been spent in recent years on new coal handling equipment to provide the best of service to the coal industry.

## ILLINOIS CENTRAL RAILROAD

*Main Line of Mid-America*



that point in 1936 and went to Cincinnati as general freight agent in 1947.

Mr. Younker was manager of mail, express and baggage traffic in Baltimore since March 1950. His service with the B. & O. dates from 1918 when he entered the accounting department. He transferred to the freight traffic department in 1924.

Mr. Dove, formerly assistant general freight agent in Chicago, has held that position since April 1951. Before his move to Chicago he was division freight agent at Pittsburgh. He has been with the B. & O. since 1918.

## FINANCIAL, LEGAL & ACCOUNTING

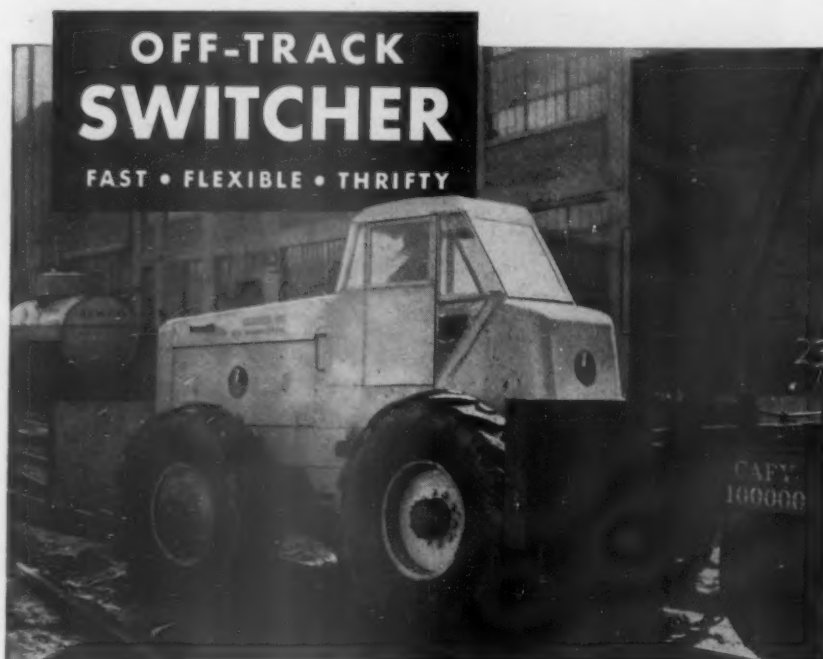
**F. F. Minger** has been appointed real estate and tax agent of New York CENTRAL at Chicago as announced in *Railway Age* of October 15. He entered railway service with the Atchison, Topeka, & Santa Fe in 1916 as assistant to right way agent, leaving in 1918 to serve in the Army. In 1919 he became terminal land appraiser for the Chicago, Burlington & Quincy at Chicago. He joined the N.Y.C. in 1925 as assistant district land appraiser at Chicago, with

headquarters at New York City from April 1928 to May 1929. He was appointed assistant valuation engineer and assistant engineer in charge of valuation work at Chicago in 1933, serving in this capacity until August 1951 when he was named assistant to assistant general land and tax agent at Chicago.

**Ben Waggner** has been appointed auditor of the MISSISSIPPI EXPORT at Moss Point, Miss.

**Thomas R. Goodes**, European secretary and treasurer of the CANADIAN NATIONAL and its associated companies at London, retired on November 11 under the pension rules of the company. Mr. Goodes was born on November 11, 1886, and joined the Canadian Northern (now C.N.) at London in January 1906. He was appointed cashier in 1919, European registrar and assistant European secretary and treasurer in 1944, and European secretary and treasurer in 1948.

**Thomas N. Cook**, general attorney for the CHICAGO & EASTERN ILLINOIS, has been appointed general solicitor, as announced in *Railway Age* of October 15. Mr. Cook joined the C.&E.I. in 1913 and has been with the law department since, except for two years of military service during World



## for Yards, Terminals, Docks

Here is the most unusual switcher you have ever seen — a big, rugged PAYLOADER specifically designed and constructed for car switching — at railroad yards, docks, terminals and industrial yards.

The PAYLOADER with its four-wheel drive and big pneumatic tires walks right across the tracks and yard to reach a string of cars by the shortest, quickest route. It can push or pull in either direction because it has full-reversing transmission with four speeds forward and four in reverse. It can also push or pull from alongside the cars.

This switcher comes with a 75 HP engine, either gasoline or diesel, and

its 11 tons of weight on large pneumatic tires gives it tremendous tractive effort — far more than can be obtained with equivalent rail-mounted equipment. Short wheelbase, power-boosted steering and big hydraulic brakes provide extreme maneuverability, ease of control and safety.

Keep traffic flowing — get full facts on the PAYLOADER way to switch and move cars faster, at lower cost. The Frank G. Hough Co., 69 Sunnyside Ave., Libertyville, Illinois.

**FREE** Job Study No. 18 is a complete, authorized picture-and-word report on the uses of PAYLOADER Switchers by a large brewery. Available on request — no obligation.



Thomas N. Cook

War I. He has had numerous positions in the department, including chief clerk, assistant tax and land attorney and general attorney. He was graduated from Chicago-Kent College of Law in 1923 and was admitted to the Illinois bar in 1924.

## OPERATING

**W. E. Robinholt**, superintendent transportation and car service of the PITTSBURGH & WEST VIRGINIA at Pittsburgh, has been appointed general superintendent at Rook, Pa.

**George M. Slater** has been appointed assistant general superintendent





**NEW!** Dining-club Lounge

**NEW!** Accommodations

**NEW!** Overnight Schedule

## **NOW!** new comfort between Chicago and Duluth-Superior on **THE LAKER**

There's news in main line travel between Chicago and Duluth-Superior—Soo Line's newest name-train—the "Laker"—Diesel powered all the way!

**NOW** a greater variety and number of private rooms (drawing-rooms, bedrooms, bedroom suites and roomettes) available.

**NOW** you can enjoy the beverage of your choice and the "best meals on wheels" in the new Dining-Club Lounge.

**NOW** you'll find the *new* schedule timed for your convenience at both ends of the route.

Unchanged is traditional Soo Line courtesy and service. On the "Laker," as on all Soo Line trains, you will find the same thoughtfulness, the same readiness to serve you that for years has made Soo Line the popular line with discerning travelers.

Economy?—Look to The Laker! Enjoy comfort and economy of travel in Soo Line's "Day-Night" coaches!

When *YOU* go to Chicago or Duluth-Superior take the best—take the "Laker"!

### **NEW SCHEDULE**

Read down:		Read up:
7:00 P.M.	Lv. Duluth . . . . .	Ar. 8:15 A.M.
	(Soo Line Terminal—Superior St. at 6th Ave. W.)	
7:30 P.M.	Lv. Superior . . . . .	Ar. 7:55 A.M.
	(Soo Line Station—Winfar St. & Ogden Ave.)	
5:35 A.M.	Ar. Waukesha* . . . .	Lv. 9:20 P.M.
8:25 A.M.	Ar. Chicago . . . . .	Lv. 6:30 P.M.
	(Grand Central Station—Harrison and Wells St.)	

\*Convenient service to and from Milwaukee by bus.



# **THE LAKER**

dent transportation of the RAILWAY EXPRESS AGENCY at New York. Mr. Slater began his career as an express driver at Washington, Pa., and has held the positions of traveling commercial agent, assistant terminal agent and supervisor of transportation at Pittsburgh, Pa. He was serving in the latter capacity at New York at the time of his recent appointment.

## MECHANICAL

**E. S. Smith**, master car builder of the FLORIDA EAST COAST at St. Augustine, Fla., retired on November 1. Mr. Smith was born at Renovo, Pa., on November 29, 1867, and first entered railroad service with the Chesapeake & Ohio on January 1, 1885, as patternmaker apprentice at Huntington, W. Va. Later he was connected with the Southern, the Louisville & Nashville, the Central of Georgia and the Tennessee Central in various supervisory capacities. Between railroad engagements Mr. Smith was manager of a brake beam manufacturing plant and was active also in the manufacture of mill supplies and locomotive parts. In his early railroading days he became interested in making improvements in car design and at a time when railroads were testing for high speed brake power he developed a

widely used brake beam. Mr. Smith joined the F.E.C. on September 1, 1917, and was appointed master car builder in March 1920. The F.E.C. was selected by the Research Division of the Association of American Railroads as one of a group of roads to conduct extensive air conditioning tests and this was handled under Mr. Smith's direction.

## ENGINEERING AND SIGNALING

As reported in *Railway Age* November 12, **Dan B. Packard** has been appointed engineer of buildings of the ATLANTIC COAST LINE at Wilmington, N. C. Mr. Packard was employed on the A.C.L. during the summers of 1926-1928, returning to school each fall. After graduation he was assigned to the Charleston & Western Carolina as an inspector. In December 1931 he became draftsman in the chief engineer's office at Wilmington and in February 1937 was appointed assistant supervisor of building repairs. Mr. Packard became assistant engineer in the office of the engineer maintenance of way at Savannah, Ga., in February 1939 and in March 1941 he was appointed senior assistant engineer in the office of the engineer of

design. He was promoted to division engineer in February 1945 and was named special assistant engineer at Wilmington on March 16, 1947, which position he held until his recent appointment.

## SPECIAL

**G. R. French**, assistant director of personnel for the TEXAS & PACIFIC, has been appointed director of personnel at Dallas, succeeding **B. C. James**, who retired after 45 years of service.

## OBITUARY

**Joseph F. Mann**, 60, general counsel and a director of the UNION PACIFIC, died on November 4 at his home in New York. Mr. Mann was born at Bloomfield, N. J., on December 2, 1890, and was graduated from Princeton University in 1911 and



Joseph F. Mann

from New York Law School in 1913. At the time of his death he was also a member of the law firm of Clark, Carr & Ellis, which he joined in 1921. Since 1942 he had been general counsel and a director of the U. P. and a number of its affiliated companies. He was a member of the Law Committee of the Association of American Railroads.

**R. C. Thayer**, superintendent of telegraph of the GREAT NORTHERN with headquarters at St. Paul, died on November 20. Mr. Thayer was born in Minneapolis in 1892. He attended the University of Minnesota and began his career as a shop foreman with the Hennepin Bridge Company, Minneapolis, in 1913. In 1916 he went with the Northwestern Bell Telephone Company as telephone engineer. He entered the service of the G. N. in October 1917 as a draftsman, being promoted to telephone engineer in 1919. He was appointed assistant superintendent of telegraph in 1936 and became superintendent of telegraph in 1941. Last December he completed two years of service as chairman of the Communications Section of the Association of American Railroads.

# Industrial, Commercial and Agricultural Opportunities in the Territory of the NORFOLK SOUTHERN

If you are interested in a site for a manufacturing plant or warehousing distribution center, or for the processing of products of agriculture—such as corn, soya beans, and cotton—there are now available in North Carolina and Virginia as served by the Norfolk Southern Railway a number of ideal site locations.

All of these sites are in an area that has (a) supply of efficient labor, (b) large quantities of water from large rivers as well as ground wells, and (c) electric power. There is a friendly community attitude towards industry, and a constant desire on the part of the community to co-operate to the fullest extent with new commercial and industrial activities.

The Norfolk Southern Railway operates a fleet of Diesels, and you are assured of dependable transportation service to and from all sections of the United States.

The Norfolk Southern Railway invites you to submit to it requirements for your plant, warehouse, etcetera. You are assured that a confidential brochure will be promptly furnished responsive to your request.



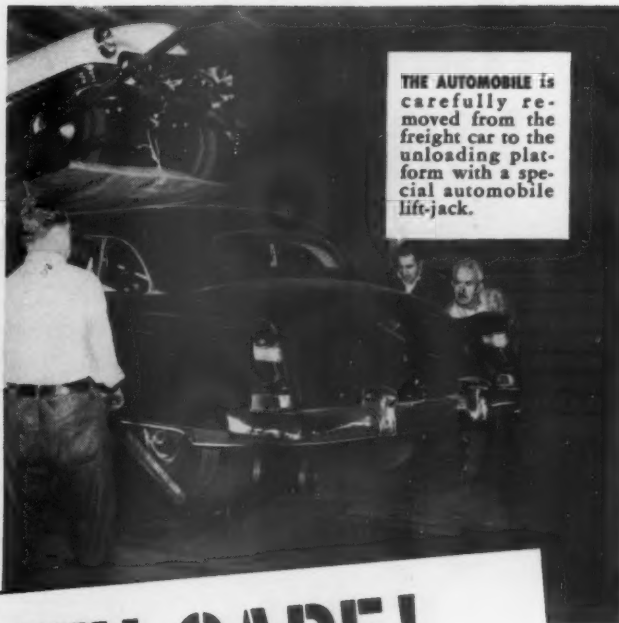
## NORFOLK SOUTHERN RAILWAY

J. F. DALTON, Director of Industrial and Agricultural Development  
NORFOLK, VIRGINIA





**AUTOMOBILE**  
FREIGHT cars are equipped with the latest loading racks. Sway arms and heavy duty hold-down chains tensioned by turnbuckles attached to the automobile frame prevent all motion while in transit.



**THE AUTOMOBILE** is carefully removed from the freight car to the unloading platform with a special automobile lift-jack.

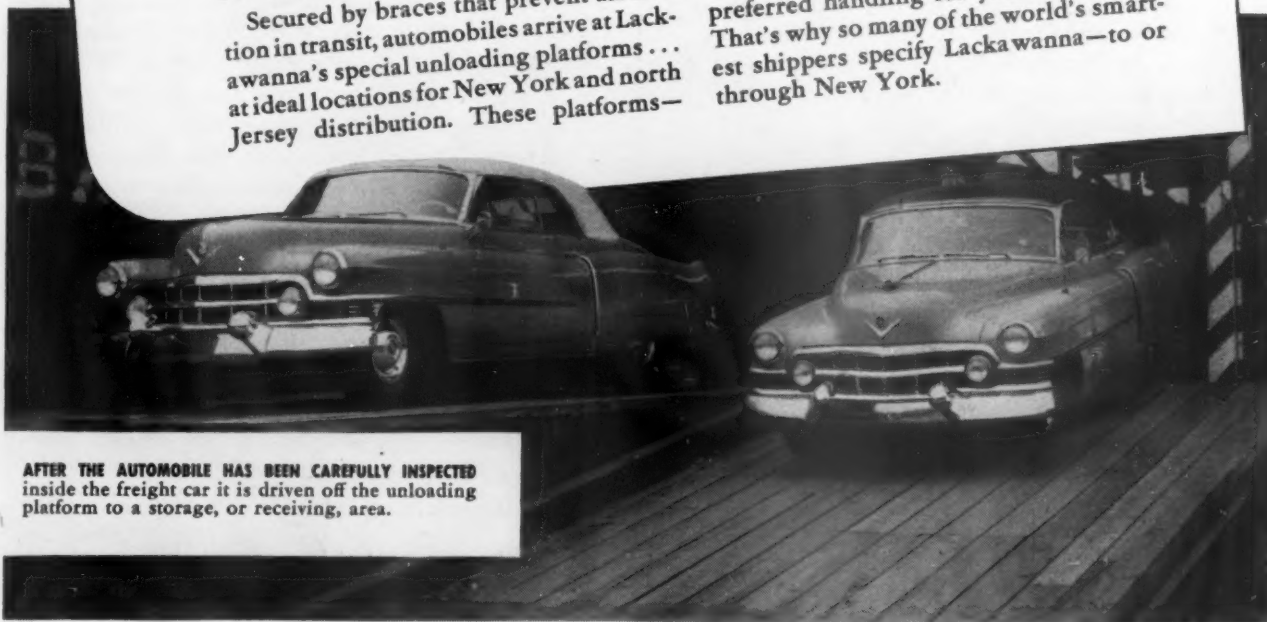
## HANDLE WITH CARE!

Perhaps no other class of freight calls for more careful handling than the automobile. Expert freight house crews operating with the most advanced and efficient mechanized equipment make certain that cars shipped *via Lackawanna* arrive safely ... and on schedule!

Secured by braces that prevent all motion in transit, automobiles arrive at Lackawanna's special unloading platforms ... at ideal locations for New York and north Jersey distribution. These platforms—

elevated to the same level as the freight car doors—make unloading a swift and simple operation. Each car is carefully checked by trained inspectors before it is allowed to depart.

Whether it's automobiles, packaged freight, perishables or bulk traffic, modern Lackawanna efficiency adds up to preferred handling for your shipments. That's why so many of the world's smartest shippers specify Lackawanna—to or through New York.



**AFTER THE AUTOMOBILE HAS BEEN CAREFULLY INSPECTED** inside the freight car it is driven off the unloading platform to a storage, or receiving, area.

# Lackawanna Railroad

1851-1951

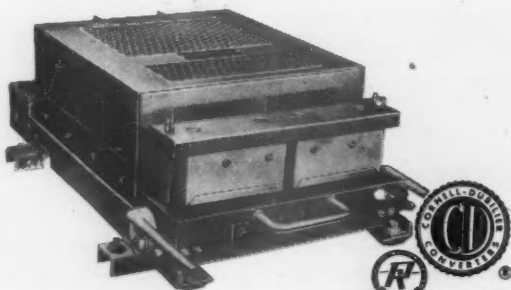
**SHIPPERS WHO ARE IN THE KNOW, CHOOSE THE ROUTE OF PHOEBE SNOW**



# The first VIBRATOR CONVERTER- field-proved and accepted for railroad duty!

The C-D Vibrator Converter is already being widely used on many of America's leading railroads. *Assures uninterrupted radio communications:* C-D's patented dual vibrator circuit, with automatic switch-over, services itself en route. *Like found money in the communications budget:* Saves 60% on cost of initial installation; saves 50% each year on maintenance costs.

Write for technical bulletin: Cornell-Dubilier Electric Corp.  
Dept. RA-121, Indianapolis Division, 2900 Columbia Avenue,  
Indianapolis, Ind. Affiliate Member A.A.R.



CONSISTENTLY DEPENDABLE  
**CORNELL-DUBILIER**  
VIBRATOR CONVERTERS with Railroad Dependability

PLANTS IN SOUTH PLAINFIELD, N. J.; NEW BEDFORD, WORCESTER, AND CAMBRIDGE, MASS.; PROVIDENCE, R. I.; INDIANAPOLIS, IND.; FUGUAY SPRINGS, N. C.; AND SUBSIDIARY, THE RADIART CORP., CLEVELAND, OHIO

## FOR SALE

50-TON ALL-STEEL  
ORE CARS

### IMMEDIATE DELIVERY



Do you have an urgent need for ore cars? If so, here is a golden opportunity to get 50-Ton All-Steel Ore Cars that are in first-class condition... that are ready for prompt delivery... and that are priced to give you exceptional values.

These cars have 30% greater capacity than conventional ore cars, and are equipped with single drop doors on each side that run the full length of the hopper. This design not only minimizes leakage while the car is in transit, but affords fast and complete emptying. These cars can be delivered with doors dumping outside or inside the rail. They are also available with solid bottoms for use with car tipplers.

#### GENERAL SPECIFICATIONS

NOMINAL CAPACITY:  
100,000 lbs.  
LIGHT WEIGHT:  
37,400 lbs. (average)  
LOAD LIMIT:  
131,600 lbs. (average)  
INSIDE LENGTH:  
19' 9 1/2"  
INSIDE WIDTH:  
9' 3"  
LENGTH OVER END SILLS:  
27' 6"  
LENGTH OVER COUPLERS:  
30' 3"  
WHEEL BASE:  
19' 9 1/2"  
CUBIC CAPACITY LEVEL FULL:  
855 Cubic Feet

Complete Construction Details  
Will Be Sent Upon Request

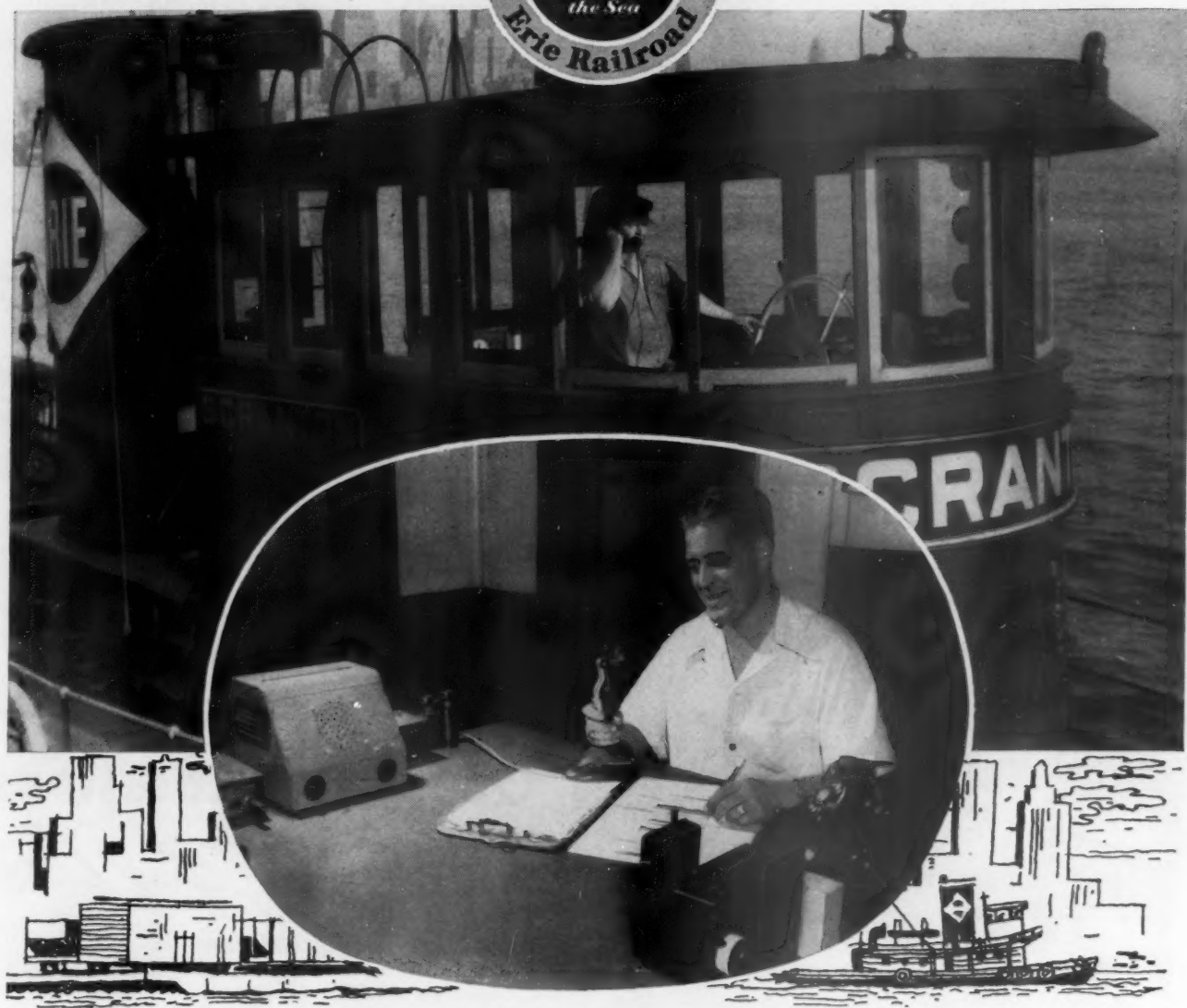


Interior View Showing  
Self-Clearing Construction



MAIN OFFICE: 228 North LaSalle Street, Chicago 1, Illinois





## Voice on the River

**H**ERE ON THE HUDSON RIVER amid the tooting of tugs and the other sounds of a busy harbor, conversation is going on between an Erie tug captain and the dispatcher on shore miles away. That's the marvel of Erie's radio-telephone system!

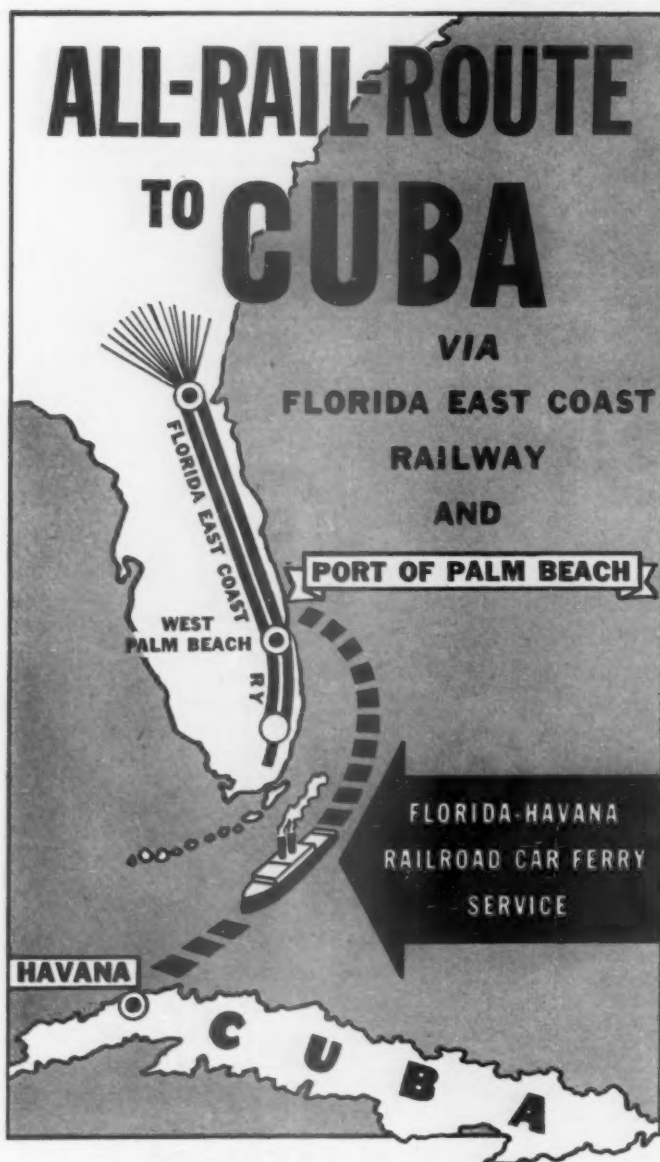
With this modern communication system, the boat dispatcher can talk to Erie tugboat captains anywhere in the harbor or they can call him when the need arises. Pier-bound tugs can turn around and pick up a string of barges without going ashore for orders. Whatever the weather, in the busy operation of Erie's navy, freight

moves faster and service is improved because of the radio-telephone.

This system supplements the train radio-telephone installation on the entire mainline from New York to Chicago which contributes to on-time performance of Erie freight and passenger trains. It is another indication of Erie's progressive railroading—the continuous effort to assure the best in safe, dependable transportation to serve our country's industrial and military needs!

# Erie Railroad

*Serving the Heart of Industrial America*



FAST, regular direct movement between any point in the United States or Canada and Cuba of any freight that can be handled by rail.

Cars loaded by shippers and routed via Ferry arrive Cuba intact, thus eliminating handling and necessity of export crating or packing.

To help alleviate the anticipated shortage of cars, 150 new "WIF" (West India Fruit) box cars are being placed in service.

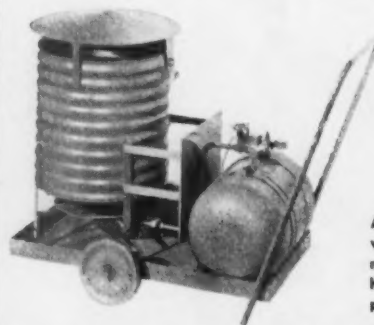
For bookings or rate information contact:

**WEST INDIA FRUIT & S. S. CO., INC.  
FLORIDA-HAVANA R. R. CAR FERRY SERVICE**

West Palm Beach, Fla.	P. O. Box 551, Tel. 2-1673
New York 7, N. Y.	Chicago 2, Ill.
30 Church St.	6 N. Michigan Ave
WOrrh 4-0724	RAndolph 6-0168

Detroit 26, Mich.  
235 LaFayette Bldg.  
WOODWARD 2-4080

**AVOID COLD WEATHER LOSSES  
WITH THIS**



**PORTABLE  
HOT BLAST  
HEATER**

Available also without wheels. Ideal for economical heating of warehouses, garages, building projects.

✓ **Preheats Insulated Cars, Trucks  
from 0° to 85° in 20 minutes!**

Here's a money-saver for your perishables this winter. The HOT BLAST is a pre-heating wonder for your refrigerated cars and trucks. Burns like a blow torch, with a mixture of kerosene and compressed air, generating a smokeless, sootless blue flame. One 5-gallon filling lasts for nine hours — enough for 25 cars. COMPLETELY SAFE! Exclusive Automatic Shut-Off Control stops fuel supply if flame goes out.

Write today for complete details and LOW UNIT PRICES on this PORTABLE HOT BLAST HEATER. You'll save money, avoid losses.

**WESTERN METAL SPECIALTY CO.**

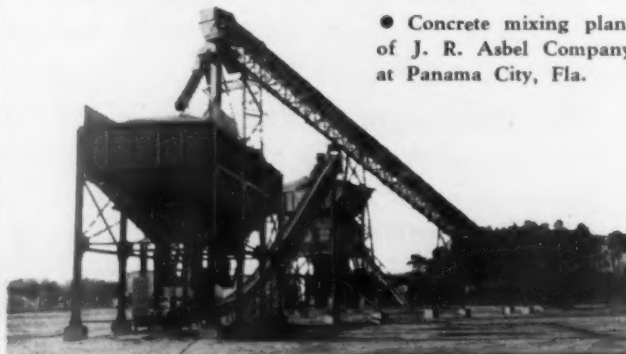
Dept. R., 1211 N. 62nd St., Milwaukee 13, Wis.  
Also Mfrs. of the Popular SIMPLEX Charcoal Car Heater

**Opportune Locations  
Along the *Bay Line***

Ideally situated in the fast-expanding Southeast, BAY LINE territory in Alabama and Florida offers many attractive industrial advantages. In Panama City, for instance, highly desirable acreage is available with frontages of approximately a mile on deep water. Served by fast, coordinated rail service, many industries, both large and small, have advantageously located along the strategic 82-mi. BAY LINE. Write for complete information.

Address H. H. Simms, General Traffic Mgr.  
Atlanta & Saint Andrew's Bay Ry. Co., Dothan, Ala.

● Concrete mixing plant  
of J. R. Asbel Company  
at Panama City, Fla.





# SURE - we're talking thru our hat!

**Katy Radio Controls, Clears, Speeds Your Shipments In, To and Through the Southwest.**

First to bring the speed and safety of railroad radio to the Southwest, Katy is fast expanding this service.

More new Diesels and equipment are part of our program, too. More and better freight and passenger service—helpful, interested service the Katy-Southwest has relied on for nearly 80 years.

Your local Katy representative will be glad to tell you more about Katy's many new plans . . . and how you may benefit by shipping and traveling Katy, Southwest.



43

## FRATE *can't wait!*



No matter how you spell it, "freight" is an important word in our "book of service." Reliable on-time shipments to stockrooms and stores make for timely, profitable merchandising.

*Be Specific—Ship*

**UNION PACIFIC**

**RAILROAD EQUIPMENT  
CARS—LOCOMOTIVES  
REPAIR PARTS**

**RELAYING RAILS**

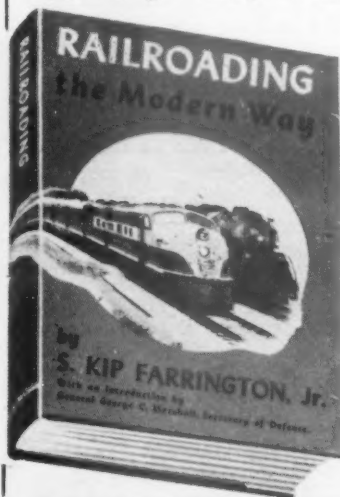
**STEEL STORAGE TANKS  
6000—8000—10000 gal. cap.  
CLEANED AND TESTED**

**THE PURDY COMPANY**  
8754 S. Dobson Avenue Chicago 19, Illinois

**THE #1 CHRISTMAS GIFT  
FOR THE RAILROAD MAN**

## Railroading THE MODERN WAY

The streamlined book about a streamlined industry. 416 pages on actual operation. The only book that really shows what the United States railroads are doing today. With 143 photographs, all new since 1948. "Fascinating."—*Chicago Tribune*. "A must . . . the railroad man will find the text absorbing reading."—*Boston Herald* \$7.50



By

**S. Kip Farrington, Jr.**

With an Introduction by  
**GENERAL  
GEORGE C. MARSHALL**

**ORDER YOUR GIFT  
COPIES TODAY  
FROM YOUR  
BOOKSTORE**

or direct from the  
publisher  
**Coward-McCann, Inc.,  
210 Madison Avenue,  
New York 16**

# CLASSIFIED DEPARTMENT

Rates: \$5.00 an inch (1" x 1 1/2") per insertion; employment ads 10 cents a word, minimum \$2.00. Add \$1.00 for box address.

## RAILROAD EQUIPMENT—FOR SALE

### STANDARD GAUGE FREIGHT CARS

Box, Single Sheathed, 50-Ton	Hoppers, Covered, All-Steel, 50 & 70-Ton
Cabooses, 8-Wheel, Cupola Type	Hoppers, Twin, All-Steel, 50-Ton, <u>Cross Dump</u>
Flats, 50-Ton, Steel Underframe, 40' 0"	Hoppers, All-Steel, 70-Ton, <u>Cross Dump</u>
Gondolas, Composite or All-Steel, 50 & 70-Ton	Tank, 8,000-Gallon, Class II
Gondolas, All-Steel, 55-Ton, Solid Bottom	

### EXTRA LONG FLAT CARS

40- & 50-Ton Capacity, Length 70' and 74'

### STANDARD GAUGE DUMP CARS

End Dump, 10-Yd., 30-Ton, Lift Door	End Dump, 20-Yd., 50-Ton, Drop Door
Side Dump, 16-Yd., 30-Ton, Lift Door	

### STANDARD GAUGE LOCOMOTIVES

Two Plymouth Diesel-Electric, 45-Ton, Type 0-4-4-0, Built 1942	Gasoline-Electric—35-Ton
Gasoline—10-Ton to 25-Ton	

Diesel-Mechanical—8-Ton to 30-Ton

One Plymouth Model KC Flexomotive 65-Ton, Type 0-6-0, Built 1940

### PASSENGER EQUIPMENT

All types of Passenger & Baggage Equipment, including Self-Propelled!

### 4 ALL-STEEL DINING CARS, AIR-CONDITIONED

Send us your Inquiries  
We Buy Freight Cars for Dismantling  
Send us your offerings

### REPAIR PARTS

For  
All Types of  
Freight Cars

### IRON & STEEL PRODUCTS, INC.

GENERAL OFFICE 13486 S. Brainard Ave., Chicago 33, Illinois Phone: BAyport 1-3456	NEW YORK OFFICE 50-c Church St., New York 7, N. Y. Phone: BEekman 3-8230
---	--

"ANYTHING" containing IRON or STEEL

### STORAGE TANKS

6,000 Gallon  
8,000 Gallon  
10,000 Gallon

### Educational Services for RAILROAD MEN

Our New Service  
on  
Diesel Locomotive  
Operation  
is highly recommended  
for  
Engineers and Firemen

The Railway  
Educational Bureau  
Omaha 2, Nebraska

Robert W. Hunt Company  
**ENGINEERS**  
Inspection—Tests—Consultation  
All Railway Equipment  
Structures and Materials  
General Office:  
175 W. Jackson Boulevard  
CHICAGO  
New York-Pittsburgh-St. Louis

### FOR SALE

Two Howe Track Scales built in 1911 and 1912—capacity 100 tons—length 42'—number of sections 5. For further information please contact

J. E. Marceau, Purchasing Agent,  
Rutland Railway Corporation, Rutland, Vt.

### FOR SALE

1500 HP diesel electric loco. New 1946. Superior diesel.  
1500 HP Electro Motive diesel elec. locos. New 1948. Type "B" units.  
25 Ton Browning 8 wheel steam locomotive crane, new 1942.

MISSISSIPPI VALLEY  
EQUIPMENT CO.  
509 Locust St. St. Louis 1, Mo.

### FOR SALE

LOCOMOTIVE: 80 ton, standard gauge, 600 volt, D.C., air operated pantograph, four 250 H.P. traction motors mounted on each axle.  
Address Box 617, RAILWAY AGE, 30 Church St., New York 7, N. Y.

### POSITION WANTED

Man with long experience in freight car engineering, maintenance and specialty work. Will locate anywhere, willing to travel.  
Address Box 616, RAILWAY AGE, 30 Church St., New York 7, N. Y.

REPRESENTATIVE TO SELL A VOLUME LINE OF STAPLE ARTICLES OF STEEL AND BRASS WITH CONTINUOUS REPEATS. DIRECT TO R.R., UTILITIES, O.E.M. etc. STATE LINES, TYPE TRADE AND TERRITORY.  
ADDRESS BOX 618, RAILWAY AGE, 30 CHURCH ST., NEW YORK 7, N. Y.

### BUY BONDS

### NEW RAILS

250 Tons 110# in stock  
Immediate Shipment With Bars.

M. K. FRANK  
480 Lexington Avenue  
New York, New York  
Park Building, Pittsburgh, Penna.  
105 Lake Street, Reno, Nevada

### RAILS

Relay & New. Track Accessories  
W. H. DYER CO., INC.  
611 Olive St. St. Louis, Mo.  
Stocks at Various Points

### USED EQUIPMENT TO SELL?

ADVERTISE  
IT IN THE  
CLASSIFIED  
DEPARTMENT



# NOW! Get the Book That Protects the Money You Invest in Diesels **DIESEL-ELECTRIC LOCOMOTIVE HANDBOOK**

By GEORGE F. McGOWAN, Technical Consultant

SEND TODAY for this great new book! Packed with photos and diagrams, it brings you up-to-the-minute facts—the latest available on diesel-electric locomotives and equipment. Here is everything you need and want to know—written from the viewpoints of the men in the cab and the shop—by an experienced railroad man—all checked and approved by the leading locomotive builders. For your convenience this handbook is sold separately in two volumes: *Mechanical Equipment* and *Electrical Equipment*. Read the descriptions that follow and you'll agree: Here is essential information you cannot afford to be without!

## MECHANICAL EQUIPMENT

Everything necessary to complete understanding of diesel-electric locomotives is included—how diesel-electric locomotives are constructed, the reasons behind their design, proper operating methods, things that can go wrong with them, "trouble-shooting," and effective servicing and maintenance.

## GIVES YOU DETAILS OF EACH PART

Among the chapters are: The Development of the Diesel-Electric Locomotive; Fundamentals; Lubricating and Cooling; Fuel System—Fuel; Pistons, Piston Rings, Liners; Connecting Rods, Bearings, Crankshafts; Valves, Timing, Heads; Governors; The Steam Generator; The Air Compressor; and The Gas Turbine Locomotive.

## DESCRIBES LOCOMOTIVES BY MAKE

Separate chapters are devoted to accounts of diesel engines made by The American Locomotive Company, Baldwin Locomotive Company, Electro-Motive Diesel, Fairbanks, Morse & Company, and Lima-Hamilton Corporation. Each engine, its parts, and its non-electrical auxiliaries are described and illustrated in full detail.

## SOLVES JOB PROBLEMS FOR YOU

MECHANICAL EQUIPMENT provides you with the most modern information on diesel-electric locomotives and auxiliary equipment in clear, easy-to-understand language. If you have anything at all to do with operating, maintaining or servicing diesel-electric locomotives, you'll use this book as a handbook to help you solve problems that you meet in your daily work, and as a reference to keep you on top of developments in this expanding field.

## ELECTRICAL EQUIPMENT

You get full descriptions of all major pieces of electrical equipment and all their parts: how they are constructed, how to operate them, how to take care of them and how to fix them if they go wrong.

There are chapters on: The Electric Generator; The Traction Motor; Exciters, Auxiliary Generators, Motor Blowers, Dynamic Braking; Batteries; and Contactors.

## DETAILS EQUIPMENT BY MAKE

The electrical and control equipment of the major builders: Alco-G.E., Electro-Motive Division, Lima-Westinghouse, Baldwin-Westinghouse, and Fairbanks, Morse-Westinghouse is completely analyzed in individual chapters.

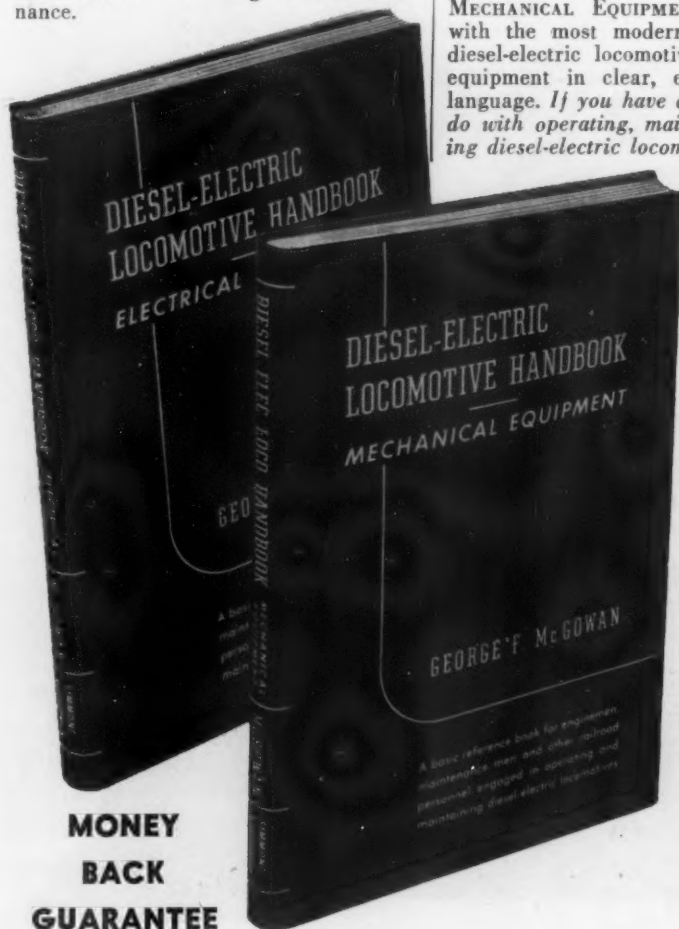
You need only a layman's knowledge of electricity to gain the utmost benefit from this book—because the subject is presented in practical language by an experienced railroad engineer.

## ANALYZES ELECTRICAL SET-UP

You learn why the electrical transmission has been adapted to the diesel locomotive; its advantages, disadvantages and limitations. You get a review of electrical fundamentals; definitions of terms and explanations of how to use the most common electrical formulas. Schematic wiring diagrams are explained and their special symbols identified.

## EXPLAINS OPERATION, SERVICING, MAINTENANCE

Yes, here is your opportunity to gain a complete understanding of the electrical equipment of today's diesel-electric locomotives, to learn how to handle, service and maintain the equipment.



**MONEY  
BACK  
GUARANTEE**

## GUARANTEED ORDER FORM

Simmons-Boardman Books  
30 Church St., New York 7, N. Y.

Enclosed find ..... for the book(s) checked below. I understand that you will ship them to me postpaid, and that if I am not completely satisfied I may return them any time within 10 days of receipt for a full refund of my money.

☐ MECHANICAL  
EQUIPMENT, \$4.95

☐ ELECTRICAL  
EQUIPMENT, \$4.95

## COMBINATION OFFER—SAVE MONEY

☐ Both volumes above, only \$9.75

Name .....  
Street .....  
City ..... State .....

12-3-51

Single loading lasts from one to three weeks!



# Repeat-O-Pak

STANDARD MANIFOLD COMPANY

**Floating Carbon  
Paper for  
Continuous Forms**

333 W. Lake Street • Chicago  
Offices in all principal cities

## ADVERTISERS IN THIS ISSUE

<b>A</b>		<b>G</b>		<b>P</b>	
Adams & Westlake Company, The	25	General American Transportation Corporation	70	Pittsburgh Steel Products Company	10
Aluminum Company of America	24	General Electric Company	20, 21	Pressed Steel Car Company, Inc.	51, 68, 69
American Brake Shoe Company, National Bearing Division	114	General Railway Signal Company	Back Cover	Pullman-Standard Car Manufacturing Company	55 to 58 incl.
American Locomotive Company	20, 21	General Steel Castings	119	Purdy Company, The	133
American Optical Company	45	Gould-National Batteries, Inc.	59	Pyrene Manufacturing Company	110
American Steel Foundries	39	Graybar Electric Co., Inc.	122		
American Steel & Wire Company	35, 60, 61, 62, 63	Great Lakes Steel Corporation	44	<b>Q</b>	
Association of American Railroads	116	Gustin-Bacon Mfg. Co.	40	Quanah, Acme & Pacific Railway Company	121
Association of Manufacturers of Chilled Car Wheels	28			<b>R</b>	
Atlanta & Saint Andrew's Bay Ry. Co.	132	<b>H</b>		Railway Educational Bureau, The	134
Atlantic Coast Line Railroad	105	Hough Co., The Frank G.	126	Rust-Oleum Corporation	50
		Hulson Co.	19	Rutland Railway Corporation	134
<b>B</b>		Hunt Company, Robert W.	134		
Baker Industrial Truck Division, Baker-Raulang Company	34	Hyatt Bearings Division, General Motors Corporation	30, 31	<b>S</b>	
Baldwin-Lima-Hamilton Corporation	109			Santa Fe System Lines	123
Baltimore & Ohio Railroad	66	<b>I</b>		Scullin Steel Co.	43
Barco Manufacturing Co.	120	Illinois Central Railroad	125	Seaboard Air Line Railroad	49
Bethlehem Steel Company	36	Iron & Steel Products, Inc.	134	Simmons-Boardman Publishing Company	135
Byers Company, A. M.	Front Cover	<b>J</b>		Soo Line	127
		Justrite Mfg. Company	48	Standard Car Truck Company	37
<b>C</b>		<b>K</b>		Standard Manifold Company	136
Canadian Cardwell Co., Ltd.	41	Kansas City Southern Lines	48	Superheater Inc.—Combustion Engineering	103
Cardwell Westinghouse Co.	41	<b>L</b>		<b>T</b>	
Caterpillar Tractor Co.	9	Lackawanna Railroad	129	Teletype Corporation	38
Chicago Freight Car & Parts Co.	130	<b>M</b>		Tennessee Coal, Iron & Railroad Company	26, 27, 35, 60, 61, 62, 63
Chicago, Indianapolis and Louisville Railway Company	101	Magnus Metal Corporation, Subsidiary of National Lead Company	106	Texas and Pacific Railway	52
Chicago, Milwaukee, St. Paul and Pacific Railroad	108	Milwaukee Road, The	108	Towmotor Corporation	118
Chicago Steel Service Company	136	Miner, Inc., W. H.	3	<b>U</b>	
Clark Equipment Company	124	Minneapolis-Honeywell Regulator Co.	112, 113	Union Asbestos & Rubber Company	32, 42
Columbia Steel Company	26, 27, 35, 60, 61, 62, 63	Minneapolis & St. Louis Railway, The	54	Union Pacific Railroad	133
Combustion Engineering — Superheater, Inc.	103	Mississippi Valley Equipment Co.	134	Union Switch & Signal	6
Cornell-Dubilier Electric Corp.	130	Missouri-Kansas-Texas Railroad	133	United States Steel Company	26, 27, 35, 60, 61, 62, 63
Coward-McCann, Inc.	133	Missouri Pacific Lines	107		
Cummins Engine Company, Inc.	65	Monon Line	101	<b>V</b>	
		<b>N</b>		Vanadium Corporation of America	18
<b>D</b>		National Aluminate Corporation	2	Van Der Horst Corporation of America	33
du Pont de Nemours & Co., (Inc.)	137	National Bearing Division, American Brake Shoe Company	114	Vapor Heating Corporation	115
E. I.	134	National Malleable and Steel Castings Company	67		
Dyer Co., Inc., W. H.	134	National Steel Corporation	44	<b>W</b>	
		National Tube Company	35, 60, 61, 62, 63	Waugh Equipment Company	53
<b>E</b>		New York Central	111	Western Electric Company, Incorporated	38
Edgewater Steel Company	47	Norfolk Southern Railway	128	West India Fruit & S. S. Co., Inc.	132
Electric Storage Battery Company, The	22, 23			Western Metal Specialty Co.	132
Erie Railroad	131	<b>O</b>		Westinghouse Air Brake Co.	4
Evans Products Company	29	Owens-Corning Fiberglas Corporation	40	<b>Y</b>	
		<b>P</b>		Yale & Towne Manufacturing Company, The	117
<b>F</b>		Peyton Spur Cleat Co.	124	Youngstown Sheet and Tube Company	46
Fairbanks, Morse & Co.	64				
Frank, M. K.	134				

The House of Stainless

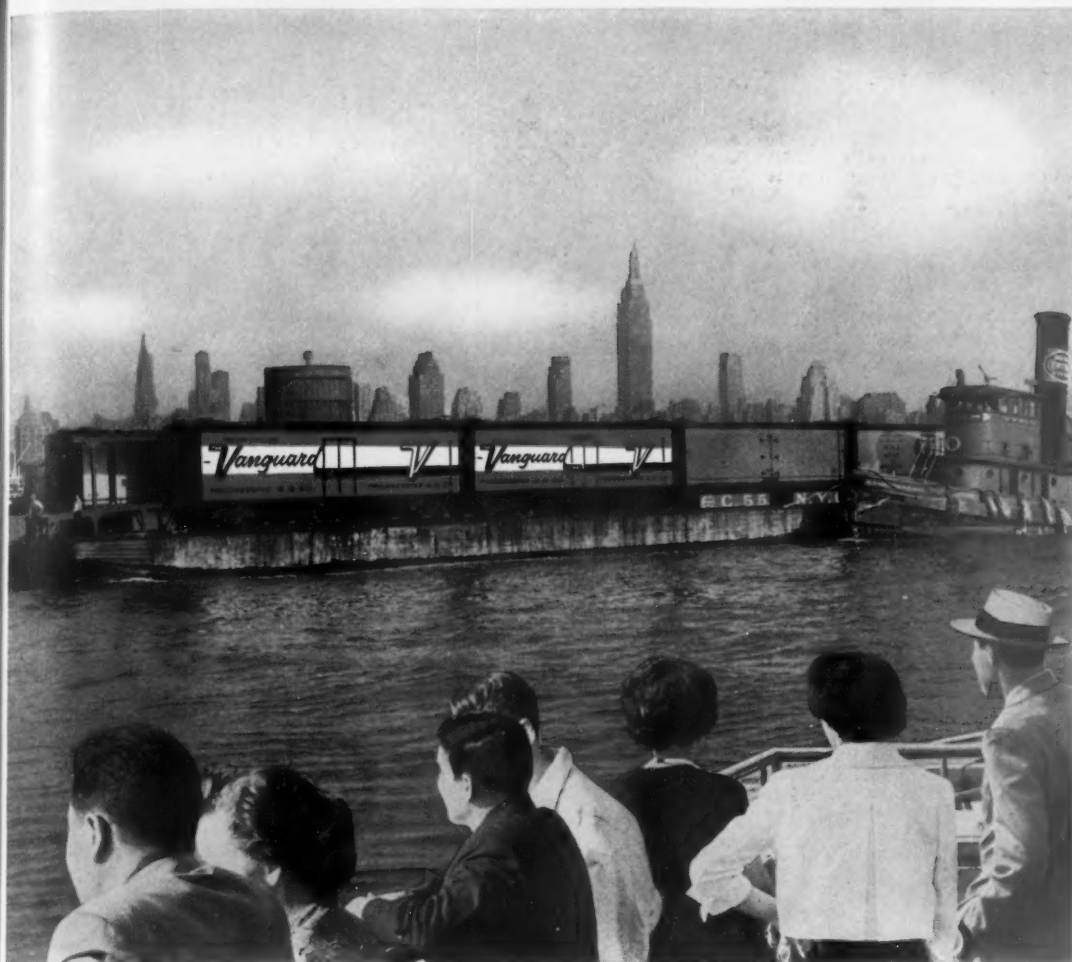


CHICAGO STEEL SERVICE COMPANY

Kildare Ave. at 45th St. Chicago 32, Ill. Telephone LAfayette 3-7210

COMPLETE SERVICE IN STAINLESS and CARBON STEELS





## Your freight cars have an audience wherever they go

Are you taking advantage of the selling opportunity your rolling stock offers?

Your freight cars can attract the attention of millions of people. When brightly finished, they get fast identification for your line . . . make good impressions for your company wherever they go. Moreover, you can be sure that your audience includes many prospective shippers.

That's why today alert railroad men are giving their cars new sales magic with DULUX Enamel. They find DULUX gives lasting service . . . retains its high initial gloss despite smoke, hard knocks and weathering . . . cuts yearly maintenance costs. Available in many sparkling colors, DULUX assures cars instant identification.

So go after new shipping traffic and improve your public relations with Du Pont DULUX Railroad Finishes. E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington 98, Delaware.

**85%** of America's leading railways\* use DUCO lacquer or DULUX enamel on passenger-train equipment



. . . conclusive proof that the nation's railroads depend on the exceptional qualities of Du Pont DUCO and DULUX Railroad Finishes: outstanding durability and sparkling beauty with a minimum of maintenance.

\*Includes Class 1 lines operating 100 or more passenger-train cars.



REG. U. S. PAT. OFF.

# DUCO • DULUX

REG. U. S. PAT. OFF.

REG. U. S. PAT. OFF.

## Railroad Finishes

BETTER THINGS FOR BETTER LIVING  
... THROUGH CHEMISTRY

Finish Facts  
from  
**DU PONT**

**NICKEL PLATE** goes after new business with modern DULUX-finished equipment



Operating about 2,192 miles of railroad, the Nickel Plate Road is today making a bid for a share of the midwest's growing passenger traffic with a change-over to ultra-modern equipment. Among the line's latest additions are the cars above—smartly finished with DULUX.

During the year these cars will undergo all sorts of weather on runs from Buffalo and Cleveland to Chicago, and from Cleveland to St. Louis—weather that the DULUX finish is scientifically formulated to take.



Soft, restful DULUX colors create a club atmosphere in the Nickel Plate's new bedroom-diner-lounge car. Really durable, a DULUX interior finish can be washed time and time again.



A long-time user of Du Pont Railroad Finishes, the Nickel Plate is one of the many leading American railroads that demand finishes of proved quality.\* From experience they know that they can depend on a finish made by Du Pont.

INDIANA

# FEWER SIDINGS

with G-R-S Centralized Traffic Control

# CUT INSTALLATION COST

The Louisville & Nashville recently installed 136 miles of G-R-S cTc on single track between Henderson, Ky. and Amqui, Tenn.\*

Of the original 38 sidings, 5 were removed, 11 converted to storage tracks, and 22 equipped with cTc power switches.

Operating efficiency has been stepped up. Movements of some 30 trains are now authorized by signal indications controlled by the dispatcher.

Our engineers will be glad to show you the many advantages of cTc. Just call your G-R-S district office.

*\*Railway Age, July 16, 1951*



- ⊗ Sidings removed
- Storage sidings with electric locks
- Sidings with power switches



**GENERAL RAILWAY SIGNAL COMPANY**

New York 17 Chicago 3 ROCHESTER 2, N.Y. St. Louis 1 A-2541



FOUNDED IN 1856